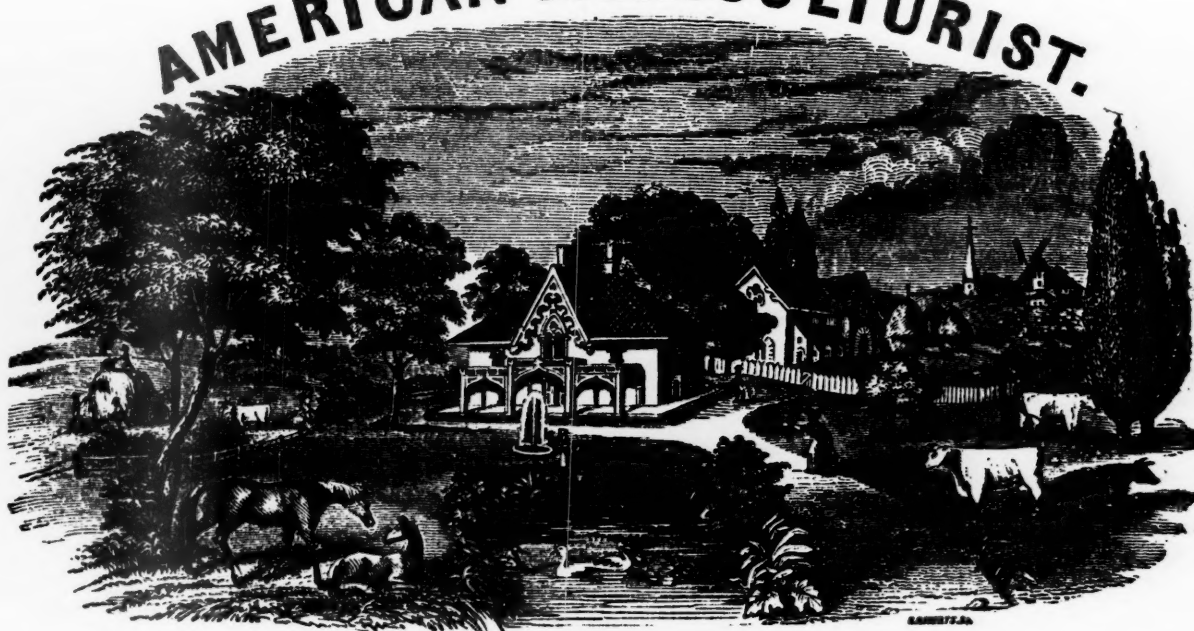


THE AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of Man.—*Washington.*

VOL. III.

NEW YORK, JUNE, 1844.

NO. VI.

A. B. ALLEN, Editor.

SAXTON & MILES, Publishers, 205 Broadway.

CULTURE OF CORN.

CORN is unquestionably the most valuable grain-crop which is raised in the United States. So much, however, has lately been written upon its culture that little new can be said upon this subject. It is well known that it is a gross feeder, and land can scarcely be made too rich for it. Proper hoeing, frequent stirring of the earth with the plow or cultivator between the rows, and above all, keeping the weeds down, are quite as essential as a rich soil. There is one point in the culture of corn, and a pretty important one to, which seems to remain in dispute, and that is regarding the breaking of the roots by deep plowing between the rows. The late Judge Buel contended that this was very injurious; while an equally eminent authority, Judge Beatty of Kentucky, has come to the conclusion, after careful experiment, that cutting the smaller roots by the plow, or otherwise, to a moderate extent, is not injurious to the crop; for, says he, the main roots will thereby throw out innumerable others in their place, and to a much more diversified extent. We will here make a suggestion of our own. Does not the cutting off a few of the smaller corn-roots act upon the stalks in the same manner as root-pruning of fruit-trees? When the growth of the tree is too rank, we know

that root-pruning has the effect of checking the production of wood in the tree, and of causing it to produce more fruit. Why, then, will not the root-pruning of corn add to its increase of grain? We should be very glad if some of our readers would make a series of experiments on this crop the coming season, with a view of testing the merits of the two different methods of culture. We apprehend that when the soil is very rich, and there is a tendency of the corn running too much to stalk, cutting the roots would be advantageous; but where the land was rather poor, and no such result likely to ensue, that cutting or breaking the roots in its culture would be injurious. However, this is a mere matter of speculation with us, and till some reliable experiments are made in different kinds of soil, the same season, and with rows side by side, a mere opinion on this subject should have little weight with the practical farmer.

CORN FOR FODDER.—The culture of corn for summer soiling and winter fodder is greatly on the increase, and demands attention. From experiments made by several of our friends last season, in growing corn for soiling, they found that such as was sown in drills about one foot apart, did much better than that sown broad-cast; and

that the varieties of Sweet-Corn which produce tall slender stalks, and the most leaves, gave the best and greatest amount of fodder. They infer that there was more saccharine matter in the stalks from these varieties, and the cattle, consequently, found it more palatable and nutritious.

CORN FOR SUGAR.—It seems to be a settled point, that corn can be grown to advantage for the purpose of making sugar and molasses, in the interior of the country where the former costs 10 to 12 cents per pound, and the latter 50 to 55 cents per gallon. We presume that the same kinds of corn which make the most and best fodder, would make the most and best sugar and molasses; with this difference, that as the corn-blades must be stripped from the stalks previous to cutting them for making sugar, the kinds bearing the least leaf and best stalk, should be selected for this crop.

We gave full details in our first volume, of the best method of cultivating corn for making sugar and molasses, and the whole process of cutting and crushing the stalk, and boiling and granulating the juice. Little important has since been discovered in the way of improvement. Some, however, prefer cultivating it in drills as recommended above for fodder, as they say it is not so likely to throw out ears; but then the stalks are smaller and the blades more abundant, so that the extra labor in stripping them would probably be equivalent to that of repeatedly taking off the ears. If cultivated closely in drills, we doubt whether the saccharine matter would be as abundant in the stalks as when grown wider apart; that is, we think the juice would contain a greater quantity of water, gallon for gallon. Corn may be planted for making sugar, or for fodder, any time till the 20th of this month north of 40 degrees; farther south, still later.

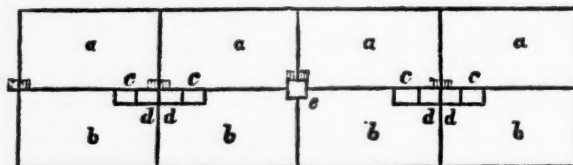
SKETCHES OF THE WEST.—NO. IV.

WE spent some little time at Lexington, and during our stay there, made various excursions in the neighborhood, and the more we saw of this delightful country, the more we were convinced of its great superiority as a farming and grazing district.

Stocks of Messrs. Curd and Allen.—About three miles from Lexington, on the road to Shakertown, on handsome plantations lying near each other, resided Mr. Wm. P. Curd, and Mr. Edward Allen; both famous for breeding fine stocks of Irish Graziers, and Berkshire swine. The former is quite a genius in his way, and great is his fame in fine pigs throughout the west; he having been one of the first to embark in this business, and very enterprising and persevering in continuing it. He had a splendid stock, several of which were imported directly from England. The same may be said of Mr. Allen, who is one of the very best judges, and has as fine a taste in breeding as any man we ever met. And lest we should be accused of partiality in our judgment, we will add of Mr. Allen, that although being of the same name, we can trace no relationship of blood between us.

We liked the arrangements of these gentlemen for breeding very much, and think it suits better

the mild climate of Kentucky, than the close piggeries we are obliged to build for our protection farther north. Below we subjoin a cut explanatory of the same.



KENTUCKY PIGGERY —FIG. 37.

The spaces *a, a*, and *b, b*, may contain areas of grass-land of any dimensions convenient to the breeder, enclosed and subdivided by fences, which are shown by the lines above, running at right angles. *c, c*, and *d, d*, are pens of any suitable size, made of boards, with shed-roofs and plank-floors. These are then divided by partitions into four each, with doors at *d, d*, and *c, c*, opening into the lots *a, a*, and *b, b*; so that each pen makes a comfortable apartment for a breeding-sow, where it can be kept by itself, and have all the shelter requisite, together with plenty of space for grazing and exercise. *e*, is the feeding-house, which contains all the food necessary for the stock, and where kettles are set to cook it. As no stream runs through these lots, a well is dug here, and a pump placed in it, which furnishes the supply of water. These lots open into each other by small gates, and the fences are got over by steps placed on each side.

After viewing these and some other things, Mr. Edward Allen took us through handsome ranges of plantations, to the residence of his father, some 4 miles distant. Here I saw his magnificent Durham cow Princess, purchased of Mr. Henry Clay, Jr., who imported her from England. She is one of the most imposing animals we ever looked at; large and fine, with a spread of loin of at least 30 inches, which is one of her best points. In addition to this, she is well let down in the twist, very good in the brisket, a fair milker, and keeps fat on a small quantity of food. Indeed, Mr. Allen told us the greatest difficulty in the matter, was, to get her poor enough for good breeding condition. Another imported cow we found of smaller size, but very fine in all her parts. She handles well, and is a superior milker. The stocks of the planters whom we visited in this excursion were not large, they devoting their land more particularly to the cultivation of hemp, of which they obtain superior crops. But on this topic having already pretty freely spoken in former volumes, it is unnecessary for us to dwell at greater length.

CULTURE OF THE POTATO.

WE have read hundreds of essays on the culture of the potato, and yet, among them all, we do not find any general fixed rules in regard to the best method of producing a crop. When carrying on our own farm, we made various experiments during a series of years in this matter, and the following is the result:—

1. If the season proved a dry one, the plantings from whole tubers of the largest sizes, produced

the greatest yield. The reason of this, we inferred, was, that large tubers gave the growing crop a greater amount of nourishment than smaller ones or cuttings could.

2. If the season proved wet, then little or no difference was found between cuttings, or small or large tubers.

3. We never obtained a greater quantity, nor so good a quality of potatoes, as when planted on sod turned up after the grass got well started, the first week in June; and we do believe, where a pleasant flavored, mealy root is desired, that a grass ley fresh turned over, is the very best preparation for a crop that can be made. By allowing the grass to get a good start before plowing, it assists greatly in the rapid decomposition of the sod; and this, with its roots, have proved with us the sweetest and best elements out of which to form potatoes.

4. By manuring highly with fresh barn-yard manures, poudrette, guano, fish, sea-weed, or indeed any strong, rank, highly fertilizing substance, a large crop is generally obtained; but we have invariably found that it was at the expense of its quality—the potatoes proving more or less watery, and frequently, possessing a strong, tangy taste; and as nutriment for either man or beast, we fully believe that the same kind raised upon fresh turned-up sod, is worth 50 per cent. more than that produced from ground where rank unrotted manures are applied. If the land could be subsoil-plowed as the sod is turned up, we have not a doubt, especially in rather a dry season, but it would add considerably to the productiveness of the crop.

5. A top-dressing of lime and charcoal is the best preventive we know of against insects and disease. See an excellent article on this subject in February number, page 56, by Mr. Pell.

6. The after-culture is so well understood in this country, that we need not dwell upon it. Twice hoeing is as good as more; and the hills or rows never should be disturbed after the blossoms have appeared, as this injures the growth of the tubers already set, and causes the roots to throw out new ones. We have heard a great deal said by some experimenters about the non-necessity of hilling potatoes abundantly. We can assure our readers from repeated experiments we have made, that the potato delights in an accumulated, wide-spread, mellow bed; and that, unless this is provided, they can not generally expect, except in the richest and most friable soils, to obtain a large crop. Our emphatic advice, therefore, in the after-culture of the potato, is, to turn with a wide plow all the good top-soil between the rows to the plants; first, soon after their appearance above the ground, and second, just before the vine blossoms; but in doing this, be careful not to bury the tubers too deep. This should then be followed with the hoe, gathering the fine soil nicely about the vines, and leaving their beds with a flat top rather than a steep roof shape; in this way they preserve the moisture better, and present a broader surface to the growing and invigorating influences of the light and sun. We usually plant in drills 3 feet apart, the sets 6 inches apart in the drills. When a top-dressing

of lime is not convenient, ashes are excellent at the rate of a pint or so round each stalk, or plaster at the rate of a table-spoonful. Either of these greatly stimulate the growth. But we need not further dwell on this point, as the subject of manures for the potato, is extremely well treated in an article by one of our correspondents, page 139, in our last number. We wish the growers of the potato could be induced to pay more attention to the quality of this important crop than has usually been done.

FARM OF MR. WOOLSEY.

ONE of the most highly cultivated farms which we have had the advantage of visiting in this vicinity, is Casina, at Helle-gat Neck,* belonging to George M. Woolsey, Esq. It is bounded in front by the East River, the ground gradually rising as it runs back, to an elevation of 50 feet or so, and sloping gently to the northeast, terminating toward Flushing bay with a rich border of salt-meadow, furnishing just hay and grass enough to give variety to the food of the stock. The soil is naturally a good one, being mostly a gravelly loam, interspersed with rocks of a greater or less magnitude.

When Mr. Woolsey came into possession of this farm, three years ago, he found it in a miserably low condition, and scarcely a building upon it deserving the name. With his characteristic energy he immediately commenced work. The old buildings were completely renovated, and new ones added where wanted; all admirably modeled, and combining utility, comfort, and convenience. But while these were going on, the land was not neglected. As much stock was immediately put upon it as it would support; all the sea-drift which the tides threw up on the meadow was immediately raked into winrows, and the rock-weed gathered from the rocks and transported to the barn-yard; the scrapings of ditches, and any other fertilizing substances on the farm, were also seized hold of and carted there; all of which, being judiciously combined with the stable-manure, now formed a valuable compost. In addition to these materials, we believe some use was made of lime, charcoal, and the offal of the sugar-house, procured from this city at a moderate expense. Thus was a large body of highly-fertilizing substances soon formed for enriching the soil. Loose, tumble-down wall fences, which with their accompanying nuisances of elder, thistles, and other vile weeds, occupied lines of 6 feet in width or more of some of the best portions of the farm, were removed, together with the surface-rocks and stones, as fast as the fields were broken up by the plow, and used in filling up a dock for the convenience of landing from the river-craft, and to build a strong sea-wall in front of the estate, and construct roads and ditches wherever necessary.

The course of cropping adopted, was such as is more or less common on good soils on Long Island;

* We have thought proper to make use of the original Dutch name of this place, viz: "Helle-gat," meaning, a narrow passage. Hurl-Gate and Hell-Gate are American corruptions, which one could wish to see abandoned for the appropriate original.

the sod being broken up the first year, and corn or roots planted with a heavy dressing of manure. On such fields as the crop could be got off sufficiently early in the fall, wheat was sown with grass-seed; on those which were later, oats or barley and grass-seed followed in the spring. The third year the land yields grass, and in this it is kept as long as profitable, when it will again be broken up and subjected to two years' cropping with manure.

The whole area of the estate comprises 149 acres. From this must be deducted for buildings, pleasure-grounds, garden, woodland, and salt-meadow, 61 acres; leaving for arable land, and what may justly be called the farm, 88 acres. Of this, 6 acres are taken up in an orchard of full-grown trees, in which, owing to their thick shade, neither the grass nor any other crop will be more than one half what it would if no trees were upon it. Yet from these 88 acres, Mr. Woolsey raises hay, roots, and grain enough (with the exception of wheat-flour, for family use) for the consumption of his people—the keeping of 10 horses, 3 yoke of working-oxen, 1 bull, 12 milch cows, and 4 head of heifers. With this stock, the straw and offal of the farm, and the sea-weed thrown up by the high tides, he will hereafter probably make 300 cords of manure every year, which will enable him to still further enrich his farm; so that its condition for good cropping is now only fairly attained, and we should not be surprised to find three years hence, that the products were nearly doubled; more especially when we consider the very important improvement added the present season, of subsoil plowing. Every foot of land broken up this spring has been done with Ruggles, Nourse, & Mason's superior eagle and subsoil-plows, and the tilth is now so light and deep, that as we were walking over it, Mr. Woolsey could anywhere thrust his cane easily into it two feet. We consider the introduction of the subsoil plow as the greatest modern improvement in tillage, and before our present volume closes, we shall hope to record for the benefit of our readers, the result of it at Casina, in its crops of oats, corn, and roots—the wheat-crop having been put in last fall previous to its being brought on to the farm.

Of the stock, Jupiter is a very pretty Short-Horn bull, and is from the herd of Dr. Pool of New Jersey. He is of a pure white color, medium size, fine points, and handles well. He is docile and playful in disposition, as active as a colt, and a good feeder. Eliza, his dam, is also from the herd of Dr. Pool. Several of the cows have more or less Durham or Devon blood in them, and have been selected for their deep milking qualities, they giving when in season from 16 to 28 quarts per day. From these, crossed by Jupiter, Mr. W. anticipates raising choice dairy cows, and of his success in this we have not a doubt. It is a reasonably cheap and sure method of improving the general stock of the country. The pigs are of the Berkshire breed, pure Chinese, imported directly from Canton, grass-breed, and the crosses of the three. They are fine animals, good feeders, and thrifty.

The orchard is mostly winter-fruit, and a source of considerable income. The grass there is of the cocks-foot or orchard variety (*dactylis glomerata*)

and clover. It was forward enough the last week in April for soiling, and has been daily cut for the horses and working-cattle, and for feeding the milch-cows at night in their stalls. We are of opinion, if the season prove favorable, that three cuttings averaging half a ton or more of dried grass to the acre may be had there, which will be a great yield when we consider how thickly the ground is studded with fruit-trees. These removed, it would unquestionably produce 3 to 4 tons of dried grass per acre.

The gardens at Casina are large and well stocked. Around the strawberry-vines we noticed dried grass was spread, so as to prevent the fruit touching the ground; thus not only keeping it clean, but hastening its ripening, and adding to its flavor.

The grounds about the mansion are tastefully planted, and enclosed with a light open iron-fence, the first we have seen out of England. We think such fences the most appropriate for pleasure-grounds, as they do not obstruct the view, and are quite ornamental. The lawn is beautifully graded, and being carefully and frequently mowed and rolled, the turf has acquired a thick velvety coating, which assists in guarding it from the scorching effects of a drought, and presents a very agreeable sight to the eye. The view here of the river—its numerous bays, and coves, and fairy isles, and the adjacent country, is varied and picturesque in the extreme, and well worthy the study of the man of taste, and the artist. We wonder our citizens do not of en resort to the country and its healthful occupations.

DORKING FOWLS.

WE have been so often written to on the subject of Dorking Fowls, that we take this conspicuous method of replying, that Mr. H. T. Chapman, No. 77 Fulton street, and Dr. Henry A. Field, No. 51 Third Avenue, this city, will have a few pairs for sale the coming autumn, at \$3 to \$4 per pair. Those gentlemen for whom we brought the breed from England, in 1841, do not keep them for sale, but merely for their own private use. The Dorkings are an excellent fowl, of the larger, though not of the very largest kind. They are fine in their points, docile, well fleshed, and hardy; good layers, and nurses, and are more used for capons than any other variety in England. Their weight, well fattened, is from 5 lbs. to 10 lbs., according to sex and age. We have heard of their weighing, occasionally, 12 lbs., but this is rare. In conclusion, we beg the public not to entertain any extravagant notions regarding them, and then they will not be disappointed when they become their possessors. The Dorkings, generally, have the addition of a fifth toe, though all do not; every five-toed fowl, however, is not a Dorking, and those taking that point alone for their guide will get mistaken; for five-toed fowls of no particular breed are quite common the country over. For further particulars regarding the Dorkings, we must again refer to pages 180 and 342 of Vol. I., and 112 of Vol. II., of this periodical; which we think, will give our correspondents all the information that they can desire on this subject.

WE commence in the present number of our periodical, a series of articles on the introduction of the sugar-cane into Georgia, and the best method of culture and making sugar in the United States. They are written by one of the most eminent planters of the south, and one whose elegant pen has often been devoted, in various publications, to the cause of agriculture. These will be followed by others on the culture of rice which will be found of great value. Through the ability and kindness of southern friends, our paper, from its commencement, has been one of the best exponents of the agriculture of the south, and it is ever our intention to keep it so; and we trust thereby to make it among the most useful and popular publications of the day, to the residents of that highly-favored section of our country.

CULTURE OF THE SUGAR-CANE.—NO. I.

Introduction of the Sugar-Cane into Georgia.

—In the winter of 1805, my friend, Mr. Cooper of St. Simons, who had received a few plants the previous year, sent me one hundred of the Otaheite cane, introduced, among others, from Otaheite, by Lieut. Blight. Before that time, from 1794 to 1801, the revolution in St. Domingo (which was but an extension of the same flame which had carried murder and desolation as well into every cottage, as into every palace in France) had driven some few Frenchmen to fly for refuge from their burning houses, and their frantic pursuers, on board American vessels, with such of their faithful slaves as would follow them. When there, they naturally turned their hopes to Louisiana, where they would find Frenchmen, and where they might find a home for themselves and their servants. To these unhappy men, did Louisiana owe the introduction of the Creole-cane, a small yellow kind, and the only cane then grown in the French islands, and the manufactory of sugar.

A young friend of mine, who had been educated in France, had gone to New Orleans soon after the sugar-cane had been introduced, and sugar manufactured. Among other communications, he mentioned while there, that the orange-trees had been entirely destroyed by frosts. As the orange-trees on the coast of Georgia, had been growing from the first settlement of the country by General Oglethorpe, without injury, I naturally concluded that we, too, might grow the cane, and might manufacture sugar, and from that period I was anxious to make the attempt; but it was not until the winter of 1805, that my friend, Mr. Cooper, had furnished me with the means of doing so. My hundred cane, produced three thousand, and from these most of the cane of Georgia, and even Florida has come.

In 1808, I had extended my planting of cane to eight or ten acres; and about the same period, the evil spirit which had been long abroad in England, and that was destined to curse her colonies first, and then the father-land, had begun to make

thinking men in Jamaica and other colonies, doubt of the course of English legislation, and to look abroad for a future home. Among them several came to Georgia, and were surprised at the size to which my cane grew, and its apparent sweetness; for be it remembered, at that time, in none of the British colonies, had the hydrometer been applied to the measure of the sweets of the cane. The opinion of these gentlemen, with the conclusions I had drawn from the report of my friend from Louisiana, determined me, in despite of the embargo laws, to proceed in the cultivation of sugar as a crop. My success for the first few years, determined my neighbors to follow my example, and everywhere sugar plantations sprang up around me. The price of sugar was then about 10 cents per lb., a remunerating price. A few cane were carried up the Altamaha, and its tributary streams, the Oconee and Ocomulgee, by every boat; and very soon, in travelling from Darien to Milledgeville, or Macon, by other routes, the cane was seen growing, in luxuriance, around every log-house on the way. The soil was light and warm, and had been fertilized, by the breeding of cattle, which had heretofore been gathered together at night, to give milk to the family, and butter, and abundance of every kind; and now a luxury was added, the only luxury that is in some degree necessary to man. I have nowhere seen, I have nowhere read, of any region where sugar-cane grows with so little labor to its grower, and sugar is manufactured with so little trouble to its manufacturer, as in the pine-lands of Georgia and Florida, for 150 miles from the sea.

The price to which sugar has fallen, has involved in debt and ruin, the growers of sugar for sale for the consumption of others, in most countries; but their very enthrallment, the great expense in which they have involved themselves in preparing the means necessary for commencing the culture and manufacture of sugar upon a large scale, has bound them as with an iron chain, to a profitless pursuit. For myself, after 30 years and more of experience, and after having read all that has been published in the English language upon sugar, I became satisfied that sugar can not be produced for sale in any country or in any climate, under 5 or 6 cents per lb. England, in the fell purpose of destroying the colonies of other nations, and putting down the growing of sugar, of cotton, and of indigo, in countries that border the Atlantic, consented to destroy her own colonies. She would still have Hindoostan, and her hundred and twenty millions of abject subjects, who would and must labor at her will for 2 anas (6 cents) per day; this would buy from 2 to 4 seir (4 to 6 lbs.) of rough rice, a little salt, and a cotton cloth to cover their waist. In Hindoostan, and her hundred isles in India, there are no radicals to burn barns, and to light up wheat-stacks; there are no Daniel O'Connells to dingle in their ears Irish rights, or Irish wrongs. But there is in the United States, the same blood, flowing through the same veins, and the same elastic spirit, which has descended to them from their common Anglo ancestors, which directs them to the best results, through the simplest means. If, then, England should succeed in burning every

sugar-house, and in murdering every white man, from the Brazils to the Gulf of Mexico, she will still find that the Anglo American is in no want of Hindoostan sugar, but will produce enough in the south from sugar-cane, in the middle states from corn, and in the northern and western states from the maple-tree, to supply all their wants.

What then, will you inquire, is the present condition of the sugar culture? I reply that all have given it up, upon a large scale, as a crop, and have returned to rice or cotton. If the Louisianians of the lower Mississippi, have not yet done so, it is because their establishments were upon a large and costly scale; their lands had cost them at least \$100 an acre; their sugar-houses, their mills, their engines to propel them, their duplicate boiling apparatus, had cost upon a common average at least \$30,000. A moderate plantation, with its fixtures, but without negroes, would have been thought cheap, when I was there in the spring of 1825, at \$100,000. Sugar then gave from 5 to 6 cents per lb., on the river plantations, dependant upon quality. Lands have greatly fallen since, but so has sugar. After as careful examination as I could give to the plantations, above and below New Orleans, for a few miles, my conclusion was, that 800 lbs. of sugar to the acre was about the average crop, cultivating six acres to the laborer, three in plant-cane, and three in ratoons, which is a second growth of cane from the roots of the previous year. But this was the entire crop; there was neither corn, nor wheat, nor even oats, all of which would have grown well upon this fat alluvial soil. But the planter's land had under better auspices, and with better prices for sugar, cost him too much to be so employed. To the upper Mississippi, then, he was indebted for the necessities, and for most of the luxuries of his living. He had neither cattle, sheep, nor poultry of his own raising; he had all these in abundance, and cheap, and they were brought to his door; but still they cost money, and that money had to be earned by more energy, by more of industry, and by more of the lights of philosophy, carried into agriculture, taken as a whole, than I have seen in any country, either in Europe or America. Since the year 1825, things had grown worse rather than better in Louisiana; for the seasons had become cold, the elements appeared to have broken loose from all constraint. One season poured down rains for months, and the next denied a shower, for long periods, to the hardened and suffering soil. This long continuance of bad seasons, had driven the ten or twenty planters upon the coast of Georgia, who were growing sugar upon a large scale, to turn to something else, and the more readily because if one cultivated high-land, he returned to his cotton crop; he had only divided, never altogether abandoned cotton. With the grower of sugar upon river-land in Georgia, the case was still better; he turned his whole attention to rice, which retains more of its ancient value than any other cultivated crop in America, hemp excepted.

In consequence of the various soils in which it was grown, I think the average crop in Georgia should not be put at more than 500 lbs., (except on river-lands, where it gave 1000 lbs.,) in the place

of 800 in Louisiana; but otherwise, the cultivator was in better condition, for he produced upon his plantation all he required for his people or for himself. All of us still plant a few acres of cane, to make a little sugar and molasses for our own use, and for plantation use. Our machinery stands still. My own, that cost me more than it ought, from having begun my operations during the embargo of three years, which forced me to expedients that cost me a great deal of money, and which of course I abandoned as soon as I had an opportunity, at the close of our late war with England: an idle war, in which neither country gained anything; and in which both countries lost what neither has to this hour regained. From these causes, my sugar establishment cost me \$30,000. My friend, Mr. Hamilton Cooper's works are finer than mine, and he tells me cost \$25,000. We both have *sabby* buildings; an artificial stone made of equal portions of lime, sand, and broken oyster-shells, but which is equally good of broken stone or gravel. It was around walls at Seguntum, built of such materials, that Hannibal and Scipio battled, and which are imperishable.

Mr. Cooper's buildings of *sabby* are 140 feet by 40, one elevated story. This building held, first his steam-engine, carrying a very large horizontal mill, which cost 500 pounds sterling in England. My sugar-works consisted, first of a vertical-mill, which cost me two prices, and also an extraordinary sum to a Jamaica mechanic, to put it up. The copper to make my boilers, was purchased at 62½ cents per lb., and I had to hire an indifferent copper-smith at \$4 per day, to put them together. I afterward procured a horizontal mill, from West Point, the best mill I have ever seen, and excavated a basin to take in tide-water, so as to work my mill by the tides. The objection to this is, that you can of course only work from 10 to 12 hours in the 24, and frost is treading upon your heels; for you have but two months, instead of six, (as the West Indians have,) to take off your crop. And yet the man of Louisiana, makes from his six acres of cane in two months, more than the man with his one acre made in six months, in Jamaica. For Bryan Edwards tells us, (himself an extensive planter in Jamaica,) that one acre of cane to the hand, produced a hogshead of sugar, or 1,600 lbs. in England, (after the drainage of a sea voyage,) and was about the average of the Jamaica sugar-crop.

In Georgia, my opinion and my advice was, to plant two acres of sugar-cane, and two acres of long staple-cotton, or three acres of rice, to the laborer; because you harvested your rice in September and October, and you manufactured your sugar in November and December; so that there was more time given, and more harmony of operation in this divided crop, with either cotton or rice. To conclude then, what I have to say, as to the introduction of cane and the manufacture of sugar in Georgia, it is only necessary to add, there is now not one planter growing it as his *entire* crop; but there are five hundred manufacturing sugar for home uses, and that of a good quality; and the number is increasing every year. Nor is the day distant when from Savannah river to the boun-

dary of Texas, and 150 miles from the sea, every planter will make his own sugar, by a small mill of three vertical rollers, made of wood, (except the cog-wheels, which are made of cast-iron,) the centre roller turning one on each side, this taking the cane twice through; as after passing one side, it is returned by the opposite roller. These domestic mills cost \$25; the two iron kettles cost according to the size, from \$30 to \$40 for both. This mill is worked by a single horse. A man and his wife, and a child or two, can manufacture in two or three days, from 2 to 4 flour-barrels of sugar, and it makes to himself and family a little season of festivity. In my next I shall speak of the manner of cultivating the sugar-cane.

THOMAS SPAULDING.

Sapelo Island, Ga.

SAXON-MERINO SHEEP.

BEING engaged at the business of wool-growing in this part of the state, I have taken the liberty of sending for your inspection, a sample of wool from one of my bucks, which for fineness of fleece I think hard to beat, even by some of your veteran wool-growers of the north. My bucks were principally selected from the flocks of Mr. M. R. Cockrill, near Nashville, Tennessee, who has been engaged at the business of growing of wool for the last 30 years, and whose flocks have sustained a high reputation for fineness of fleece. From my experience in the business, in this part of our wide country, I am convinced that this portion of the state of Mississippi, which is a dry and rolling country, is well adapted to the growing of fine wool. Sheep subsist here almost the entire year on the range in the woods, which is very extensive.

The lands in this section of the country, and in an eastward direction, consist principally of a light sandy soil, not heavily timbered, and much open; the bushes being killed by annually burning out the dead grass and leaves which cover the ground in autumn. This climate appears to be admirably adapted to the nature of the Saxon-Merino, (the only variety of the Merino that I have yet tested,) the fibre of wool growing somewhat finer than it did on the same animal about two hundred miles north of this place, and evidently an enlargement in the carcass of the progeny. My flock is acclimated, and I intend keeping a supply of fine bucks for the benefit of any of my friends who may wish to improve their flocks.

Can you inform me whether or not a good shepherd can be procured in your city, and one also that combines a thorough knowledge of shearing? If a foreigner, a Scotchman would be preferred.

SAML. F. CHRISTIAN.

Holly Springs, Miss., Feb., 1844.

The samples of wool received in the above, we have stated elsewhere, are very soft and fine, and compare favorably with our best Saxon-Merino wool produced at the north. As to a shepherd, we know of no one in particular at present, and shall be obliged if any of our friends who do, will correspond with Mr. Christian on the subject.

ODD ROWS OF CORN.

On page 26 of January number, you ask why an ear of corn with "21 rows *exactly*, neither more nor less," should be termed "anomalous?" The reason why I should so consider it, is, that I have never yet (though I have in the course of my life counted probably thousands) seen an ear of corn with an *odd* number of rows.

Sam Weller, or some other one of Dickens' characters, asks a man, "Did you ever see a *dead* donkey? Did you ever see any man that *ever saw* a *dead* donkey?"

Now, Mr. Editor, until I have had the pleasure to see you, and I hope my thread will not be cut before I do, I can say that I have never yet seen the man who could say he had seen an ear of corn, the rows of which were not of *even* number. You may dismiss all doubt about having seen ears of corn with *as many as 24 rows*. Any one who cultivates the genuine yellow gourd-seed corn, long narrow grain shriveled at the top, and much resembling the seed of some gourds, can no doubt send you ears with 24 rows. That was a favorite corn with my father, who would not sell ten bushels in the ear for less than six bushels of shelled corn! The usual allowance is one half, but he always told the purchaser if he was not satisfied to take it at that, he would have it shelled, and both parties must abide the result. He had his seed-corn from year to year selected from the whole mass, choosing always such, if the ears were perfect, as had the greatest number of rows. I often when a boy assisted in the selection, but never met with a single instance, or ever heard of one, where the number of rows was an *odd one*. I have seen many ears ending with a less number than they began, but *always* with an *even* number. So too, you will see some ears grow larger at the top end, the season perhaps proving more congenial just at the time when nature asserts her influence, to finish that part of her process.

As to the number of rows on an ear of corn, I have seen several bred in the way that has been already mentioned, which had 40 rows! I might not venture to say it, were it not that I once sent forty miles to get one, by way of demonstration, and that I can refer for the accuracy of my memory and statement, to one whose memory is the best I ever knew, and whose word was never yet doubted—the time-honored and venerable Judge Gabriel Duval. If you can send the ear of corn to Washington, "with 21 rows *exactly*—neither more nor less," it would be a curiosity in the Patent Office.

A story is told of a slave who was offered his freedom, on condition that at husking-time he could find an ear with an odd number, and it runs that when the corn was young in milk, he cut out one row, wrapped it up again, and that the scar could not be seen, and so he got free. J. S. S.

Washington, Feb. 8, 1844.

It is possible that we were mistaken in the number of rows in the ear of corn alluded to above by our facetious correspondent; but, nevertheless, we think we were not; for, as before observed, we counted them *twice*.

THE CULTURE OF TOBACCO.—NO. I.

IN the uplands of Virginia, the common method adopted in cultivating tobacco, is to clear new land every year, or every two or three years; in this way tracts not remarkable for fertility are made to produce that staple. In low lands and where the soil is rich, a tobacco-crop may be obtained every two or three years for a length of time, but in poor new lands, or such as are of mean quality, there are only a few crops, sometimes not more than two or three raised before the land becomes unfit for its culture without manures.

The object of this paper is to show what are the causes of sterility as respects tobacco, and by what means land may be improved, and kept in good condition for that important crop.

The first point which challenges attention, is the fact that new land, however poor the basis may be, unless rocky, will produce fine plants; and tracts that have run to waste, and been covered with old field-pine, after a time, when cleared again, yield an excellent crop. As far as the eye can discover any difference between new lands and those that have suffered under the exhausting tillage of new countries, there appears to be a difference only in the quantity of decaying leaves which abound near the surface. In tobacco-tillage these are carefully covered by the hoe before spring, and thus whatever benefit arises from their presence is secured to the plants. Many persons regard these leaves as nothing more than so much *humus*, but upon examination they are found remarkably rich in saline matters. It would be unnecessary to say anything of their origin, were it not that much confusion, the result of the want of a scientific ground-work, exists among practical men on this subject.

The vegetable kingdom, as respects the food of its highly organized individuals may be said to consist of two dissimilar classes. Some plants are the natives of the mere mineral earth, they flourish on lands which are without vegetable, or organic matter of any kind, provided all the mineral substances they require for their structure is present in the soil. Such plants draw all their gaseous food from the air, and are necessarily the earliest inhabitants of the earth. Numerous forest trees, natural grasses, clovers, spurry, &c., are of this extensive family. Many individuals are unable to grow except on what the farmer terms poor land, or such as is destitute of *humus*. The result of the continued growth of such plants upon bare clay, or sand, is to accumulate vegetable matter. This is effected by two processes; by the death of the roots, and by the fall of leaves, or both these actions occur together. In the forest, roots are produced in sufficient abundance; but the annual layer of leaves which fall are of much more importance than roots, because the latter soon penetrate beyond the slender radicles of most annual plants, and contain but a small fraction of the saline matters leaves possess. On the other hand, grasses when cut or grazed add to the soil by the remains of the roots of previous crops. These, although decaying with readiness, are less rich than the falling leaves of trees. If the grass or

clover be uncut, then the accumulation becomes exceedingly rapid.

Another tribe of plants is found only upon lands rich in vegetable matter, such are the Jamestown-weed (*Datura*), various worm-seed plants (*Chenopodium*). These are entirely without cultivation, but they require a portion of their food besides mineral matters from the earth. They are rich in nitre and ammonia. Every planter knows that the weeds which appear upon new lands are different from those of worn-out lands, and for no reason but that they consist of such plants as require the presence of decaying vegetable matter in the soil. As soon as that disappears, they die away, and are replaced by plants of the foregoing class. This point is here insisted on, because, agricultural chemists have overlooked the specific differences which exist in plants as respects food. It has never entered the imagination of zoologists to conceive that all animals browsed on the same herb. The distinction may not be as great in plants as in animals, but it is worthy of attention.

Besides these natural classes, the planter is interested in another race of vegetables—those that are the produce of cultivation, such as wheat, cabbages, potatoes, &c. If the difference be examined between the wild cabbage and potato, and the garden specimens, as respects soil, it will be found to consist principally in the large quantity of mould necessary to their cultivation. These points, simple as they may appear to the practical man, must be clearly apprehended as the basis of many important principles in agriculture, and with the view of applying them in the case of the tobacco-plant, they are here introduced.

But, before I proceed farther, it is necessary to remark, that the facts narrated have no connexion with the *humus doctrine*. Liebig's writings have introduced to the agricultural world the speculation of a few unknown persons, that *humus*, as such, is the food of plants, and that the farmer has only to make it soluble to command any increase of crop. This hypothesis was really of little note until he built it up to combat. The use of vegetable matter in the soil is manifold and important; but so far as it constitutes a portion of the food of plants, it acts only by supplying carbonic acid, ammonia, and nitric acid, in certain forms to the roots.

Of the different classes of plants above enumerated, tobacco belongs to the tribe that grow only on soils rich in vegetable matter; it is, moreover, in the United States, a cultivated plant in so far as the leaves are much developed by the practice of topping or removing the flower-stalk. All plants of this kind that do not very closely cover the soil, exhaust it of vegetable matter; or, to write more correctly, during their cultivation the ground loses its *humus*, and after a few seasons it entirely disappears. As soon as this result occurs, tobacco can not any longer be raised without manures. Tobacco, therefore, requires more nitrogen in a form fit for assimilation for its cultivation than it can derive from the air; grasses and clover obtain as much as they require. It is well known to planters that tobacco contains nitre; by burning, carbonate of ammonia is also given off from it. Both these bodies are obtained from food rich in

nitrogen, and the larger the supply of vegetable mould, the richer the plant becomes in these bodies, as well as the oil to which it owes its odor and flavor, which is also nitrogenized.

But the supply of an increased amount of nitrogen is not the only office that vegetable matter performs in the soil. Those writers who have treated of the subject have omitted the most important function. It is notorious that in our country no tract of drained land which is rich in vegetable mould is sterile. Yet the same fields when impoverished lose their fertility, and may be reclaimed by a new addition of vegetable matter. This is true of most lands in new countries, the mineral basis of which has not been much altered by cultivation.

What then are the changes produced by the presence of vegetable matter in the soil that it should be so suited to fertilize lands? The mineral or bare soil consists of many chemical bodies insoluble in pure water, and yet essential to plants; such are bone-earth, carbonate of lime, and potash, which is present as a silicate. No insoluble substances can pass through the roots of a plant, they must therefore become soluble. As long as the earth is naked this takes place with extreme slowness, and only by reason of the carbonic acid present in rain-water, which gives it the property of dissolving a small quantity of bone-earth, (phosphate of lime,) and carbonate of lime, and changes the silicate into soluble pearlash, (carbonate of potash.) These changes are essential to the growth of plants; but on bare lands they take place to so limited an extent, that only slow-growing vegetables can appear thereon. But in soils rich in mould, there is constantly produced by its decay large quantities of carbonic acid, which acting in the same way as that present in rain, causes a very much larger proportion of the same minerals to become soluble, and fit to sustain the growth of plants by supplying them as fast as they are required. All American soils are rich in these insoluble mineral substances, although their quantity varies; it is, therefore, not surprising that the addition of vegetable matter, by rendering them capable of entering the roots of plants, should confer fertility.

The presence of vegetable matter in tobacco-lands has a two-fold influence in supplying the necessary amount of ammonia and nitric acid, as well as rendering potash, &c., soluble with sufficient rapidity, and this last property is much the most important. Tobacco planted out in June ripens by the middle of September; in less than three months it has taken up from the soil its mineral matters. The commercial specimens contain about 17 per cent. of ash, and an acre may yield about one thousand pounds, it therefore contains 170 lbs. of ashes, drawn from the soil in that short time, all of which must have become soluble.

But before I leave the subject of vegetable mould, it is necessary to remark, that the term humus applied to it by speculative agriculturists, has introduced a great deal of confusion into the science. Humus, regarded in a chemical sense, does not exist in the soil, for it is pure vegetable matter in a certain stage of decay; whereas, every particle of mould contains mineral matter, such as potash,

bone-earth, gypsum, &c., which are by no means to be overlooked in treating of its action on plants.

The property of forming carbonic acid, and thereby rendering the insoluble bone-earth, silicate of potash, and carbonate of lime of the soil soluble, belong to humus; but as the vegetable matter decays, the mineral substances belonging to the leaves or roots from which it has been produced are also liberated and become food for the crop.

When tobacco is planted in newly cleared land, it is furnished most liberally by the dead leaves with ammonia, nitric acid, and the mineral substances present in them, independently of the soil; but in addition to this supply, the insoluble substances of the earth are rapidly rendered soluble to give it a further quantity of food. So long as the forest stood, it showered in every autumn its leaves as a top-dressing to the land. They consisted of vegetable matter, in the texture of which mineral substances were closely imprisoned, and liberated only with the slow decay of the leaf. The decay was slow, because during the warm months the ground was sheltered by new foliage; but as soon as this covering is removed, the hoe used to loosen the soil, plants with little shade introduced, the decay is rapid, and the supply of food keeps pace with it. These are the conditions which are requisite in poor lands for a tobacco crop, and as soon as they have ceased, its culture is arrested. In rich loams, where the solution of the minerals of the soil is much more rapid, and where 10 to 20 per cent. of vegetable matter is incorporated in the earth, tobacco may be obtained for many years, but it is always an exhausting crop.

It has been stated that 170 lbs. of mineral matter are removed in less than three months by a crop of tobacco from one acre of land. This is very much more than wheat or other grains carry off in eight or nine months. Thus wheat planted in October and cut in June, takes from the soil of the same mineral substances 22 in a crop of 20 bushels with straw. In these estimates the sand or silica is omitted, inasmuch as its supply is too great in all soils to cause any fear from exhaustion.

The important mineral substances present in Havana tobacco examined by Hertwig, (Liebig's annealon for April, 1843,) are:

Salts of potash.....34.15

" lime.....51.38

" magnesia.... 4.09

Phosphates..... 9.04 in 100 parts ashes.

These substances were for the most part insoluble in the earth, and must have been dissolved during the growth of the crop.

We have now arrived at a clear view of the cause of sterility in lands as respects tobacco—saline substances and ammonia are not rendered fit for food with sufficient rapidity. We also see why a large amount of dead leaves, or other vegetable rubbish will yield a crop, by giving up to the roots a sufficient quantity of these bodies.

The great question is, whether there are economical means by which land which has lost the power of sustaining tobacco, can be rendered fer-

tile and be maintained in that condition? This, which forms the second part of my subject, I reserve for a future communication.

D. P. GARDNER, M. D.,
Lecturer on Agricultural Chemistry.

New York, April, 1844.

We really hope that no one will be deterred from reading these valuable essays of Dr. Gardner in consequence of his using a few scientific terms. Our readers will find them unavoidable, that he could not otherwise express his ideas, and that they are generally explained as he goes along. He treats his subject (the Culture of Tobacco) in a different manner than it is usually written upon; and his observations will be found worthy of all attention, especially by the Virginia planters, whose soil has become somewhat exhausted by severe cropping.

TO DESTROY WORMS ON ROSE-LEAVES.

I OBSERVED in one of the numbers of Hovey's Horticultural Magazine, published some two or three years since in Boston, that the cultivators of the rose in that city and its vicinity, had been, and were at that time, very much annoyed by the ravages committed upon the rose-bush, by a peculiar kind of worm, which destroyed the vitality of the leaves, giving them the appearance of having been scorched, and preventing the bush from blooming.

The cultivators of the rose in the city of Brooklyn, have also suffered in like manner, and by the same kind of worm, for these five or six years past. This worm is easily distinguished from all others infesting the rose-bush, by its peculiar manner of eating the leaf. They are in length from one quarter to three eighths of an inch; the body slender, and of a very pale-green color. They appear in immense numbers, and are always found upon the upper surface of the leaf; and completely eat off all the soft green substance of it, (they never eat any other part,) leaving the original form of the leaf entire, and having the appearance of net-work, which soon assumes a brown color. There is no other worm which confines itself in eating, solely to the soft green substance; all others eating on the edge, and destroying the whole leaf. This particular difference renders it easy to distinguish them. They are peculiar to, and confine their ravages to the rose-bush; and I believe are never seen beyond the cities and their immediate vicinities, as I have not known the rose-bushes in the country to be infested with them. They make their appearance in June, and if not checked, will destroy every rose-bush in the garden, so far as blooming for that season is concerned. They disappear as soon as they have destroyed the leaves on the bushes.

My object, particularly, in writing this communication, is to make known the means of effectually preventing their appearance; and of instantly destroying them when they do.

I had for two years tried various experiments to destroy these worms, and preserve my bushes

from injury, but did not succeed, until I thought of trying dry Scotch snuff, with which, for the last three years, I have fully succeeded in preventing their appearance, thereby obtaining a fine bloom of roses. For two years previous, my bushes did not produce a rose, the buds turning yellow and falling off, in consequence of the leaves being destroyed by this same kind of worm.

I use a round tin box, $2\frac{1}{2}$ inches in diameter, and about 4 inches deep, perforated at one end like a pepper-box, with a cover on the other end, in which I put the snuff. With this I dust well all the leaves of my bushes, which should be done when there is no wind. To prevent, effectually, the appearance of these worms, the leaves should be dusted with the snuff as soon as they expand in the spring, and be continued once a week until the rose-buds begin to open and expose the petals, when it should be discontinued, as the beauty of the rose would be destroyed by being dusted with snuff. The worm above spoken of, seldom or never appears after the bushes have bloomed; at least, I have never seen them, where the snuff was properly applied; nor have I had occasion to use it after that time. The leaves are not in the least injured by the snuff, and can easily be rubbed off, leaving them perfectly green. Should its use be neglected until the worms have made their appearance, their ravages can be immediately stopped, by dusting them well with snuff, as they do not live but a few seconds after. Another reason for recommending the early use of the snuff, is, because of another kind of worm, which appears much earlier than the one first mentioned, and is to be found frequently in the folds of the leaves before they have expanded, so small at first, as scarcely to be seen, which perforate the young leaves and buds. This worm grows to the length of from half an inch to an inch, is of a green color, and has a brown head. After attaining a certain age they roll up the leaves, forming a web inside, which the others do not. The early application of the snuff will prevent this kind of worm also from appearing, but will not destroy them after they have attained their full size, as it will the worm first mentioned.

M. VAN BEUREN.

Brooklyn, April 8, 1844.

THE PHYSICIAN AN AGRICULTURIST.

APART from the debasing pursuit of politics, the physician of a village or remote settlement is often one of the most influential members of the community. Let me hope that you will not be wanting in your duty to your country. She has a right to expect from you, that you will elevate the general tone of society, and spread the arts and refinements of life. Wean the old, and preserve the young from debasing and immoral pursuits by encouraging a taste for reading and social intercourse. Be ever ready to join in associated efforts for the promotion of education, temperance, and other laudable objects. It is one of your peculiar privileges in the study of your profession, to have acquired a knowledge of vegetable physiology, and organic chemistry. This knowledge leads by

easy gradation to the principles of agriculture—no longer a mere art, but in a state of transition, and destined soon to become a science. When we consider how large a portion of our citizens are engaged in this noble pursuit, what immense benefits may accrue to the country, by improvements in it—how must these improvements depend upon the union of science with practical farming, you can not fail to realize—how much is due from you to whom so much is given. Let me hope, gentlemen, you will encourage among farmers a taste for agricultural reading; that you will endeavor to break down the prejudices which practical farmers too often entertain against science as applied to their business, and that you will encourage them to give their children a good scientific agricultural education. I hope the day is not distant, when the legislature of this state will establish a school of agriculture.

You are now young, when you become old, the instinctive propensities of our nature given to man, when his Maker placed him in the garden of Eden, now kept in abeyance by other pursuits, will become predominant, and you will seek to pass the decline of your lives in company with Ceres and Flora. I can not wish you a happier lot than this, so fitted as it is for that tranquillity of mind, which leads to suitable preparation for our final destiny.

We have been permitted to make the above extract from the manuscript copy of the excellent address of Dr. Stevens, President of the College of Physicians and Surgeons of this city, at the annual Commencement, on the 14th of March last. We trust that the able and accomplished President of this Institution, will follow up these hints at his next annual address, with others on the propriety of the profession, when practising in the country, paying some attention to the pathology of animals. In the general absence of well-educated Veterinary Surgeons, physicians may do great good, and save many a poor animal much pain, and severe losses at times to the farmer; and in thus acting, they need not fear either *degrading* themselves or their profession, for in Europe nearly as accomplished an education is demanded of the Veterinary Surgeon, as of those practising among their own species.

AGRICULTURAL ERRORS.

SO MANY glaring scientific errors find their way into our agricultural works, that I am afraid, unless rectified at home, they will make us the laughing-stock of Europeans. If these works had only a limited local circulation, such errors might be amusing, yet would scarcely be deserving of notice; but as many copies of our works on agriculture find their way to other countries, and are there perused by scientific readers, we must either criticise them among ourselves, or we shall be considered totally ignorant of the sciences we so glibly write about. I am sorry to un-

dertake so disagreeable a task, and can assure the writers of the articles I am about to review, that I am totally unacquainted with either of them, and that my only object is to save the credit of our common country.

The first article I shall notice, is one written by Mr. Noyes Darling, of four columns, inserted in the Albany Cultivator for March, on lime as a destroyer of sorrel. Mr. Darling is correct in supposing that oxalic acid is formed from the elements of the plants in which it is found; but in error when he gives hydrogen as one of the elements of oxalic acid, this acid being composed of only two elements, carbon and oxygen. It is still more strange that Mr. Dana should prescribe lime as a cure for the growth of sorrel, when it exists in this plant as an oxalate of lime, and could not grow in any soil unless lime was present.

The juice of sorrel changed by a process, well known by the operative chemist, to oxalate of potash, has been much used in the arts, and sells at a high price. I have sold it at \$3 per pound, and it is now selling at \$1. There are about forty species of plants which contain oxalate of lime; four species that contain binoxalate of potash, and only one known species (the *cicer parietinum*) that contains uncombined oxalic acid. If this cicer could be cultivated in any part of our country, it would afford a valuable acquisition to the useful arts, in supplying us with oxalic acid, which is now imported at a cost of nearly 50 cents per pound.

A few drachms of oxalic acid will operate as a violent poison; but a small quantity with sugar and water forms a pleasant cooling beverage, and is considered a fine antiseptic. I have drank many gallons of oxalade, and punch made sour with oxalic acid.

I had written thus far when a friend handed me a work called the Muck Manual, by Mr. Dana, requesting me to review it. I had not read many pages before a suspicion flashed on my mind, that this work had been perused and taken for authority by Mr. Pell, and hence several errors in his article on "Charcoal and its Uses," in the April number of the Agriculturist. This shows the importance of professional writers being correct, and no excuse can be made for Messrs. Dana and Darling. They are my superiors in literature, and the scientific errors they have fallen into, particularly Mr. Dana, who I am informed is an analytical chemist, must arise from a want of due investigation.

I believe Mr. Dana is considered a good analyser of mordants and coloring-matter, and is of course a valuable citizen in such pursuits; yet it struck me with no little surprise, that a practical chemist should have adopted so wild and unsupported a theory. Chemistry is altogether a practical science, and the first lesson I learned forty years ago, was never to give credence to any theory that was not supported by direct and well-ascertained experiments. This axiom was established by the chemical savans of France in the early period of the science, and when departed from, the chemical world will produce theories as wild and unstable as were those of the old alchemists.

There appears to be a natural tendency in the human mind to sketch imaginary pictures, instead of troubling itself in tracing realities. If we enter a steamboat or hotel, it is much if we do not see some head hung up phrenologically mapped; we can not look at a paper, but we observe advertisements of a lecturer who talks about some epileptic, or cat-aleptic ladies, to prove mesmeric phenomena; and what is worse, a large audience looks on and sucks in the whole as established truths. Several attempts have lately been made by chemists of more or less celebrity, to run into unsupported theories, which require to be kept in check by the more sober portion of its followers.

Boullay, an European chemist, observed some few years since, a black or dark-brown substance which exuded from the bark of the elm, to which he gave the name of ulmin. It is very sparingly soluble in water, but readily soluble in solutions of the alkaline carbonates. He found its constituents to be carbon, hydrogen, and oxygen, and termed it ulmic acid. He considered it identical with the brown matter of vegetable mould, and as contributing materially to the nutriment of growing plants. Several chemists of the day pursued this subject and made rather a plausible theory from Boullay's discovery. It will surprise no one that Liebig should take it up, and pursue it with his usual transcendental energy; for even the acute and accurate Berzelius gave it credence for a time, but soon acknowledged his error.

There is no mistake in supposing that carbon, hydrogen, and oxygen, contribute very materially to the nutriment of growing plants, for we know that the greater portion of all plants are composed of said elements. Nor is there any difficulty in supposing the exuded substance contained an acid, as almost all the known acids found in the vegetable world are binary, or tertiary compounds of those three elements.

So far as I have read Mr. Dana's Muck Manual, he has founded the chemical portion of his work entirely on the now exploded theory growing out of Boullay's discovery.

I shall renew this subject in a future essay, and review Mr. Dana's work more in detail.

WM. PARTRIDGE.

THE ENGLISH OAK IN AMERICA.

A CORRESPONDENT in the American Agriculturist for April, seems disposed to throw the English oak into disrepute in this country, and recommends in its stead, the Turkey oak (*Quercus cerris*,) and the Tauzin, or more properly the Pyrenean oak (*Quercus Pyrenacea*.) It is to be regretted that any such ideas should have been brought before the public, as the English oak (*Quercus robur*,) is far superior to either of the other species in point of utility, hardihood, or picturesqueness of appearance. Yet the Turkey oak is a very desirable tree, both on account of its rapid growth and symmetrical form; and the Pyrenean oak well deserves a place in collections, from the beauty of its foliage and the singularity of its fruit. It is doubtful whether the latter is suited to our northern climate, as it does not ripen its acorns even in Brit-

ain, and besides, its leaves do not appear till three weeks later than those of the British species. It is also objectionable on account of its slow growth and the running of its roots near the surface of the ground to a considerable distance, and in throwing up numerous suckers. The Turkey oak, however, is a vigorous, growing tree, with an upright stem and a regular head; but neither its twigs nor branches have that tortuous or massy character which are so much admired in the British oak; nor is its timber so strong and of so great durability when exposed to the alternations of moisture and dryness. Like other trees of rapid growth, it soon arrives at maturity, and does not subsist so long as the English species. It is particularly adapted to our western prairies, where a rapid growth is desired; and for the information of those who may wish to make the experiment, I would inform them that acorns may be obtained at the London nurseries for \$2,50 a bushel, and young seedling plants from \$2,50 to \$10 a thousand. Plants may also be had at the Flushing nursery for 50 cents each.

As was stated in the Agriculturist for February, the English oak is perfectly hardy in our climate, which has been proved by Mr. Derby; and when grown to any magnitude its timber is more valuable for ship-building than that of any other kind of oak, with the single exception of our southern Live-oak. As an ornamental tree, it is scarcely surpassed in picturesque beauty, and its history, as connected with the civilization of mankind, and the associations connected therewith, are sufficient inducements alone to cherish and perpetuate it.

B.

TORNILLO OR SCREW-GRASS.

HAVING noticed in great abundance on the plains of California, a wild grass of the leguminous species, which, for its great superiority over all other grasses in that country as a source of nutrition to animals, condensed into a small compass, and widely disseminated, I have considered well worthy of notice in your journal. By the inhabitants of that country it is recognised as the *tornillo* or *screw-grass*. It is scattered all over these plains, but in the greatest abundance on the gentle elevations of table-lands, between the rivers and creeks; the tall grass of the low lands gradually merging into this plant as the ground rises between creeks—the geographical character of the country. When fully matured, it acquires an elevation a little greater than that of the buffalo-grass of our western prairies, and is also similar to it in the general appearance of the leaves, and mode of distance at which they are given off from the root; the leaves, however, are broader at the base, and though rapidly tapering, are not *waved*, nor so numerous; there being but about six from a single root stalk, which latter is prolonged into the seed-stem, eight or ten inches long, and terminating in a round, spiral-shaped head or pod, one inch long, and one quarter of an inch in diameter, and containing from ten to a dozen round and slightly compressed seeds, about the size of a split pea, and possessing a flavor very much like that of a bean.

The stalk pierces through the centre of the head ; around it is wound in a spiral manner, a strong membranous riband-like ridge, commencing at the base of the head, and slightly tapering at its apex. This riband-like band is attached to the body of the stalk, in the centre of the head, by its edge, and is about three eighths of an inch wide ; the seeds are enveloped in separate capsules attached within the spiral groove. Altogether, it has precisely the appearance of a *wood-screw*, only wanting the head and the color of that useful implement.

The beholder for the first time, will be forcibly reminded of the story of the Connecticut pedlar, who, upon returning to his friends, being requested to give an account of his adventures, affirmed that the soil about the Mississippi was so fertile, that the emigrant there had only to plant his crow-bar at night, to be ensured a rich crop of ten-penny nails next morning. Such at least was my first thought ; wonder if it was not this plant, which afforded Archimedes that valuable hint on a certain occasion ?

Cattle will not touch the screw-grass when green, preferring any other kind, of which, fortunately, there is always an abundance. But in the month of August the case is reversed ; then, owing to the warm sun and droughts of summer, the whole country is parched, and the plains are covered with standing hay. At this time the screw-grass has reached its maturity, and is fully ripened ; the seed-stalk has shrunk to one third its size when green ; the seeds are feebly secured in their spiral-cells, waiting for the first strong breeze to scatter them upon the ground, or from the brittle nature of the stalk and disproportionately heavy tops, to decapitate the heads. Then the vast herds of cattle will leave the low ground for the table-lands. Cattle, horses, and mules, may be seen in every direction, picking up from the ground seeds and pods, as our own domestic animals pick up corn shelled upon the floor. The soil of the table-lands, being a clayey-loam, moistened for seven or eight months in the year solely by the night dews, which the morning sun speedily evaporates, is nearly as level and hard as a board-floor, enabling the animals to pick up with ease, even solitary grains. Where this grass is abundant, there is scarcely any other plant. The condition of the animals now rapidly improves ; by the last of September or early in October, cattle have acquired their maximum of flesh, and are ready for the slaughter, when the ranchero or farmer realizes from their tallow and hides a handsome profit. In the spring he can buy or sell them on the hoof at about \$2 per head, but if he has not been an unlucky gambler, he keeps them till they are *enveloped* in fat—thanks to the screw-grass—then knocks them on the head, and for the tallow and hide of a single animal receives from \$6 to \$8, and at times even \$10, on board the shipping on the coast. Americans there must and do get rich ; but it is as inherent in a Mexican's nature to gamble as to eat, and consequently every turn of a card helps to strip him of the only resource of wealth his bigoted nature will admit of.

The chemical analysis of the seeds of the screw-grass would show a great proportion of nitrogen, as well as fattening principles, and the proof of such combination is seen in the rapid increase of flesh, of animals which feed on it. The provision of nature with regard to this plant seems admirably adapted to California. One would suppose that she had taken into special consideration, the raising of stock in that country. She has spread out a beautiful lawn-like plain, under a genial sky, where there are no chilly frosts of winter to check the growth of the vast unsheltered herds, nor blighting winds of spring to make havoc among their tender offspring. She has furnished a luxuriant vegetation, stimulating its roots by the mild refreshing showers of winter, and sustained in its progress to maturity, by the fertilizing night-dews of summer, charged with saline vapors wafted in from over the boundless Pacific. By regular daily sea-breezes, nature modifies and rolls here the concentrated rays of the summer sun. She has also provided California a soil unrivalled in its yield ; supporting immense droves of horses, so indispensable to the ranchero, for the collecting and guarding of his herds ; the purity of the climate also wards off disease.

In the example of the screw-grass, nature has endowed it with a flavor, in its green state, repulsive to animals, by which, it is suffered to mature and fulfil its office ; until then, the nutritious ingredients are in such a state of combination as to be nearly, if not quite, unfit for assimilation ; but when ripe, and the seed is capable of reproduction, then the wonderful bounty of its Creator is manifested. Here he presents to the animal an unlimited source of food, unsurpassed by any other in richness of flavor and superiority of nutritious qualities.

The effect of screw-grass feed upon horses, displays its great value. It is astonishing to behold the difference previous to, and after feeding upon it. During the summer they are slowly regaining the flesh and strength (of which they were deprived by the young green grasses of spring) by feeding upon the gradually maturing vegetation. Then they are lean, spiritless, and indifferent to the approach of strangers, and very seldom seen to frolic or gambol ; but after a few days or weeks rioting in the rich pastures of ripened screw-grass, a wonderful change comes over them. Now, instead of appearing listless, rusty, broken-down hacks, they are round and plump, with thin, smooth, sleek skins glistening in the sun ; their movements quick and elastic, prancing and galloping about in circles, with their long flowing manes and tails waving in the air, they revel in the joyousness of health and pleasure. If man passes near them, they either follow to gaze at the bold intruder upon their wild sports, or gallop around him a few times, then suddenly dash off at their utmost speed, headed by some noble-looking fiery charger, and are almost immediately buried in the horizon, or enveloped in dense clouds of dust. The herdsman with his lasso, meets with great difficulty in catching them at this season ; but not so during the spring and fore part of summer ; then

they are so spiritless and inanimate, as to allow in most cases the lasso to be placed around their necks without the necessity of a chase.

J. H. LYMAN.

Buffalo, February 3d, 1844.

CLEARING FOREST LANDS.

In southwestern Ohio and Indiana, a large proportion of the uplands are timbered principally with beech, interspersed with oak, hickory, poplar, sugar-tree, ash, elm, maple, &c., and as you have observed the forests are dense, the timber tall, and generally heavy. Our method of clearing is this. In July and August, girdle everything in the forest great and small, reserving the rail and such other timber as you wish to preserve; girdle all the under-growth that you can well, (as it sprouts less when girdled than when slashed;) slash the balance and let it stand four or five years; as the timber begins to die, it should be sown with grass-seed of some kind, as it prevents the growth of briars, weeds, and bushes; besides, if fenced in, it affords considerable pasture. Those unacquainted with these deadenings would object to pasturing them, on account of the danger of having the animals killed and crippled by the falling of timber; but it is very seldom an animal is lost or crippled in that way, provided open spaces are made, to which they can retreat in case of storms and high winds. I have frequently noticed, even before there was much appearance of the coming storm, that the stock would retreat to an opening, or live timber; nevertheless, had I an animal of more than ordinary value, I would avoid pasturing it in a deadening. When a forest has been deadened four or five years, all the roots and limbs will have rotted, and much of the timber have blown down; then cut down the balance, nigger off the logs to suitable lengths for rolling, by piling chunks and small logs across them; during this operation, by attention to throwing up the small trash a great part will burn up entire. Then go in with a team and two or three men, heap up the balance, and fire it, and if you take a dry time for it, the work is soon completed by another burning. Now go over it and grub the green bushes, and your land is in complete order for a crop.

The expense of deadening here is 50 cents per acre; clearing off, from \$3.00 to \$4.50 per acre. A deadening ought not to stand over five years, and is generally in good condition for clearing up in four; if left too long, the second growth makes heavy grubbing; and further, it is the opinion of many of the most experienced and observing men we have in the country, that land cleared in this manner will ever remain lighter, warmer, and more productive; and is less affected by drought and wet, than lands cleared of all the timber while green. They refer to beech lands or where beech predominates; although all kinds of timber is generally deadened before clearing; if white-oak, the small growth is cut out and the large trees are left standing.

The sun must produce a powerful effect upon a soil stripped of the dense forest at once, and turned up by the plow to the scorching rays of the sun,

where, perhaps, it has not been exposed for centuries. By the deadening system the sun's rays are let in gradually, not on the naked soil, for the carpet of leaves protect it; the roots and limbs rot in and on the soil, and form a fine vegetable mould, and the phosphates (in which Liebig says the beech is particularly rich) are all returned to the soil, which renders it lively, warm, and mellow.

We have ridges or belts of table-land, lying high and flat between water-courses, timbered principally with beech, that are partially covered with surface-water; the roots are all apparently on the top of the ground, the soil cold and heavy, which, if the timber is cleared off while green, are of little value for grain or grass. But if deadened and sowed to grass, (the red-top, *agrostis stricta*, of Muhlenburgh, grows well on wet lands,) and as the timber dies and falls, it is cleared up, and the land suffered to remain in grass for ten or twelve years, it becomes quite valuable. By this time the roots and stumps will all be out of the way; now harrow it well with a heavy harrow, sow red-clover, strike out some water-furrows with a plow to drain off the surface-water in wet weather, and the clover will take well generally. When the clover is in its greatest perfection, turn it under with the plow; and if lime can be had at a moderate price, give the land a top-dressing. This will prove highly beneficial in assisting to decompose the vegetable matter in the soil, correcting any acidity remaining in it, and warming and pulverizing the ground. The land now is well prepared for good crops of wheat, oats, and corn; and with a proper rotation of crops, clover and manure, it will ever remain productive. But I would prefer never plowing such lands; I think it better to let them remain permanently in grass, occasionally scarifying the surface, sowing fresh grass-seed, and top-dressing with manure.

E. CARPENTER.

Brier Patch Cottage, Warren Co., Ohio, }
March 22, 1844.

We shall be pleased to receive the article on Woodland Pastures spoken of in a private note by Mr. Carpenter, and are quite obliged by his good wishes.

THE GEORGIA TABLE-PEA.

I HAVE an excellent kind of table-pea, and if I knew you were fond of them, and had none of this variety, I would send you some, as I think they are so early, that they would produce finely even in your cold climate. You would probably call them a field-pea, as they have a leaf similar to the cow-pea of the south. They grow in bunches like bunch or bush-beans, and are planted at the same time, and in the same manner, and ripen nearly as soon. They require no sticking, as the vine does not run. We can make two or three crops a year of them here. The pod is 6 to 7 inches long and crowded with the peas, which are perfectly round and white. They are excellent for cooking, either green or dry, but are best when beginning to turn. They are said to be the best

variety in Georgia, and can be had green from June until October.

We have a fine prospect for wheat and other small grain this year. The spring has been mild, and our corn is now large enough to hoe. Cotton mostly planted and some just coming up. Fruit looks promising. D. B.

Bellevue, Talbot Co., Ga., April 15, 1844.

BERKSHIRE PIGS.

A YEAR ago last fall, after selecting my hogs for fattening, I had on hand about 40 pigs, consisting of culls, runts, and all sorts of outcasts from the pigery, and debated some time in my mind whether I would cut their throats and send them adrift, or winter them. But my kindlier feelings prevailed, and I resolved to winter them, or make the trial at least, as I had plenty of coarse feed. The winter, however, proved an uncommonly hard one, and 6 or 8 of the pigs died before spring. After the warm weather opened, they were turned out to scrub as they could, and through the summer foraged a tolerable living, partly in the woods, and partly in an old pasture. They thus remained, not having been fed at all through the summer, and grew tolerably. Early in September I put them into a neighboring distillery to fat on shares. The owner and myself estimating that after four months good keeping on slops, they would weigh about 150 lbs. net, on an average. At that time he had common hogs in his pens that would weigh over 200 lbs. alive, which were fed equally well with mine till slaughtered.

My pigs, 32 in number, were fed five months, and slaughtered. Their net weights were from 206 to 295 lbs. each, averaging 240 lbs., and outweighing the common hogs fed side by side with them, which were double their size when shut up. These Berkshires would have weighed but little over 100 each, alive, on the average, when put up. The pork was very fine, and the hams, shoulders, and jowls I have never seen surpassed. The slops were of corn chiefly, and very rich, and thick. The proprietor of the distillery has had great experience in fattening pork, and he declared to me that these Berkshires had done better by 25 to 50 per cent., than any other hogs he had ever fed. He never had any Berkshires before these which were thorough-bred. There can be no doubt of the superiority of the Berkshires as a feeding hog.

L. F. ALLEN.

Black Rock, Feb., 1844.

GRAFTING.

1. In general, select your scions from the outside branches of healthy trees, just in their prime, or at full bearing, about midway in their heads, and rather on their sunny sides, where the juices of the wood have been properly digested by sun and air. Let them be the young shootings of last summer's growth; but in old or sickly trees, take them from the most vigorous branches in the centre of their tops. Grafting may be performed, however, with the shoots of the current year, as well as with those of several years' growth.

2. Cut your scions several weeks before the sea-

son of grafting arrives, in order that the stocks may advance over them in forwardness of vegetation, and bury them, of full length, in dry earth or clay, which must be kept out of the reach of frost till required for use.

3. The best time for grafting is when the sap of the stocks is in brisk motion, which occurs in deciduous trees a few weeks before they put forth their leaves; but reproductive evergreens may be grafted during summer as well as spring. The periods of the flow of sap should nearly coincide between the scions and stocks.

4. After making choice of the proper season, and all things are in readiness, let the operation of grafting be performed as quickly as possible. For dwarf trees, head down the stocks to within a few inches of the ground, or even below the surface. For standard trees, or those designed to obtain their full height, engraft on vigorous branches, situated about midway in their summits, and well exposed to the sun and air. Ordinarily, the scions may be from one fourth of an inch to one inch in diameter; but if necessity requires, they may be much larger or smaller. Let the stocks and scions, if possible, be of the same thickness, in order that the inner bark of both will exactly unite, and facilitate the flow of the sap. The middle portion of the scion is best; but when there is a scarcity, both the top and bottom parts may be used. Take off a little of the lower end of the scion first, and then cut it in length, so as to leave from two to five eyes or buds for the production of branches, always taking care to cut off the top in a slanting direction. Two eyes will be sufficient for a standard tree, but four or five are better for dwarfs which are intended to be trained.

5. For small grafts, less than half of an inch in diameter, adopt the *whip* or *splice* method.



SPLICE-GRAFTING.—FIG. 39.

Cut the stock *a* with a sharp knife, in an oblique direction without starting or bruising the bark, and

the scion *b* in like manner of a corresponding angle. And then, with as little delay as possible, place the inner barks of the stock and scion in perfect contact, at least on one side, and bind them fast together with a riband of bass or guana, as indicated at *c*. In this part of the process, *take particular pains* and see that the junction of the two barks is not in the least displaced.

6. To protect the grafted parts from drought, air, and moisture, a layer of green cow-dung, and fresh loam, well mixed in equal proportions, should be applied with a trowel or spatula, one inch thick on every side, and a little above and below the union of the stock and the scion. A mixture of three parts fine clay and one part of fresh horse-droppings, well incorporated together, may also be applied with success. A bandage of moss or tow is sometimes wound round the clay or mixture, to prevent it from cracking by the heat of the sun, or from washing away by rains. In making the incision in the side of the stock which is to receive the scion, the knife ought if possible to be entered at the base of a bud, and pass upward. The reason of this is, that the vital principle is more powerful there; and that the germs, both of buds and root, are, in most plants, confined to the joints of the stems; though in some, as in several varieties of the elm, they appear to be distributed equally over every part of the stem and roots.

7. For grafts, for half of an inch or more in diameter, it is preferable to adopt the *saddle mode* of grafting.



SADDLE-GRAFTING.—FIG. 40.

Cut with a sharp drawing-knife or other instrument, the stock *d*, so as to leave the top in the form of a wedge, split the lower end of the scion *e* with a fine saw, or otherwise, and pare each side of the incision, so as to fit, when seated exactly on the top of the stock, with the inner barks in perfect contact. And then, with a bass riband, bind the parts strongly together, as at *f*, and per-

form the operation of claying as in the preceding method. In grafting, as well as in transplanting trees, particularly those which are liable to be affected by the change of situation, as the magnolias, walnuts, &c., they should always be planted or inserted in the same position, with reference to the sun, as that in which they grew previous to their removal.

8. Generally speaking, in three months or more after grafting, remove the clay, and partially loosen the bass ribands which are bound round the grafts, in order that the scions may have more room to expand. In a few weeks more, when the buds have been partially inured to the air, and when there is no danger of the scion being blown off by the winds, the whole of the ligature may be removed. Should the grafts have much lateral motion, caused by the wind, they should be secured to a stake or frame.

All ordinary grafting may be performed by the two preceding methods, the latter of which has been successfully applied to the walnut, where the scions employed were allowed to unfold their buds and grow a few days before the operation took place; and out of 28 experiments 22 succeeded.

There are more than thirty methods of budding, and twenty of grafting. Leaving the wood upon the bark in budding is classed under grafting. There is no particular advantage in this mode.

D. JAY BROWNE.

Read before the New York Farmers' Club, April 9, 1844.

A MOVEABLE-FENCE.

A NEIGHBOR of mine has just commenced the construction of a cheap moveable-fence, which, so far as my observation extends, is an entirely new plan. Each section consists of three plank-posts, two or three inches in thickness, 15 inches wide at the lower, and 3 inches wide at the upper end; having one perpendicular edge, and one angle, *fig. 41*. A plank-post of dimensions given; *b, b, b, b, b*, boards nailed on to edge of post. The two end

FIG. 41.

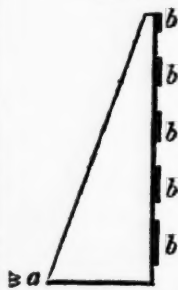
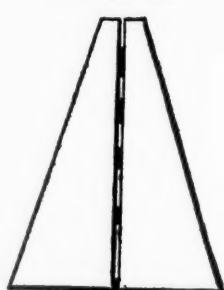


FIG. 42.



A MOVEABLE-FENCE.

posts have their edges parallel with each other, while the middle one presents its perpendicular edge to the plane of the perpendicular edges of the other two, at a distance just sufficient to admit the thickness of a board between them, *fig. 42*. Boards of a suitable thickness and width are nailed on to these, and each section is placed on a line end to end. It will be seen that these sections are supported by a base of 31 inches, thus render-

ing them perfectly secure against overthrow by winds or unruly cattle. It would avoid the necessity of double posts where the sections joined, by substituting mortices to receive the boards, by which each end-post should be made to admit the end boards of double sections, and the convenience of moving by withdrawing the boards, would be thus facilitated.

R. L. ALLEN.

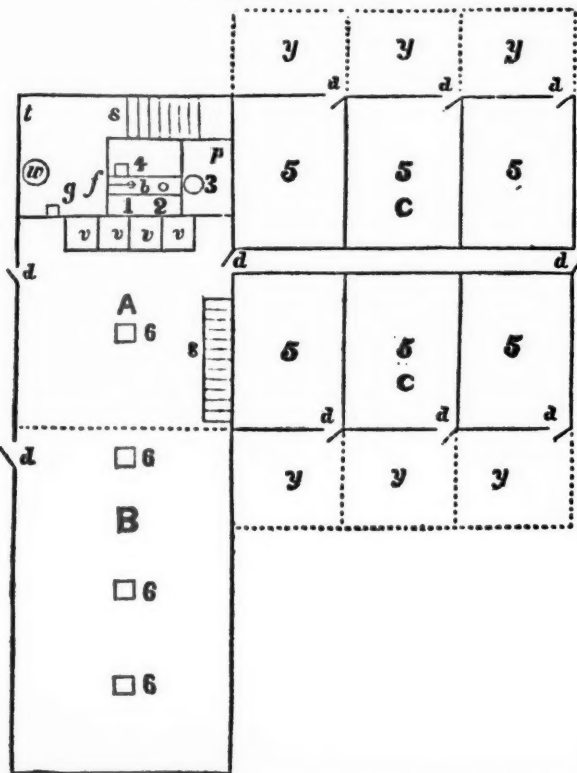
Buffalo, 10th March, 1844.

The above was forwarded us at the time of its date, the writer not having at that time seen anything of a similar kind, which has since appeared in other papers.

A PIGGERY.

In constructing a piggery, I went upon the principle that a judicious outlay of capital upon a farm in necessary buildings or other improvements, increases in a much greater ratio than the interest, the productiveness of the capital already invested; and also, that to farm profitably, there must be a regular system in the management of every branch of business. Thus, there should be a place for horses, carriages, harness, grain, and hay, all under one roof if possible; and in like manner, for all other kinds of stock; and in particular, a place where we can keep swine, from the pig to the porker, with all their feed convenient and at hand.

A PIGGERY.—FIG. 43.



A, B, front, 60 feet by 20, the part A, 2 stories, or 13 feet posts; the other part C, C, rear for pens, 30 feet square, 7 feet posts; 5, 5, &c., pens 13 by 10, alley 4 feet wide; v, v, v, vats on a level with pens; 1, safety-valve; 2, steam-pipe; 3, supply-barrel to boiler b; f, furnace; p, platform, part over boiler; 4, chimney, 8 inch stove-pipe, with damper; t, drain; w, water-cistern; g, door to cellar; s, s, stairs; d, d, doors; 6, 6, &c., scuttles to cellar; y, y, &c., yards to pens.

The piggery is designed for fattening from 50 to 60 pigs annually, and the fixtures have been made with that reference. By the annexed plan, it will be seen that it has a front of 60 by 20 feet; the first 30 feet having 13 feet posts, the other 30 feet but 7 feet posts. The first floor presents a room 50 by 20 feet, 10 feet from one end being taken for a boiling-room, or rather for a furnace and boiler, as all the cooking is done on the floor which is on a level with the pens. The rear is 30 feet square, 6 feet posts, an alley 4 feet wide through the centre. There are 3 pens on each side, 10 by 13 feet, each pen will accommodate 7 large hogs, or 8 middling sized ones, while fattening.

Under the main building is a cellar 20 by 60, 8 feet deep, 10 feet from the east, and is walled out and no floor laid over it. Here is a boiler made from sheet-iron, not so thick as boiler-iron, but a medium between that and stove-pipe iron, 6 feet long and 24 inches in diameter, set in brick-work. It has a safety-valve, and water and steam-cocks, &c., and is capable of working 45 inches, but is never used beyond 18 or 20. The steam is carried from the boiler to a series of vats on the floor adjoining, constructed as follows: The outside is of 2-inch pine-plank, 12 feet long in the clear, grooved, matched, and keyed together into one bin or vat 3 feet deep, and 4 feet wide. It is divided into four equal parts by tight partitions of the same material, so that we have 4 vats 3 feet deep, 3 feet wide, and 4 feet long, holding about 7 barrels of liquid, or 22 bushels of vegetables. All the food is cooked in these vats by the steam, and fed thence to the hogs. All unnecessary labor is saved, as the food does not have to be handled after filling the vats until it is fed out.

The building is double-boarded, the floor over the cellar is lined and has scuttles. The hog-pen is also double-boarded; the front fitted with swing-doors, so that the hog can go out and in at pleasure, and still keep the building warm. Over each door is a window 6 lighted of 7 by 9 glass; attached to each pen is a yard 12 feet square. Two of the pens have double-doors, and can be used for tying up cattle. A floor is laid over-head, which gives a fine room for storing soft-corn or other food. The second story is very valuable for a storage room. The cellar will hold a large quantity of roots and apples. Thus we have a place to keep our hogs and their feed, whether green or dry, and prepare it all under the same roof. The piggery has been in operation four years, and has fully answered our expectations in every particular.

T. C. PETERS.

Darien, N. Y.

TO KILL LICE ON CATTLE.—Mr. Starr, of New Jersey, informs us, that scattering buckwheat flour plentifully over lousy animals, is an effectual cure for them. We presume other kinds of flour would do just as well. One of the best things we ever tried, was rubbing our stock well with rancid lard, or whale, or tanner's oil. The Boston Cultivator recommends washing the animal a few times with a decoction of red-cedar bark.

A PENNSYLVANIA DAIRY.

I NOTICED with much pleasure the remarks upon my dairy in the December number for 1843, by one of your correspondents, and it has been a source of considerable regret to me, that I was so unfortunate as not to be at home when he favored me with a visit. This was owing, however, to a slight misunderstanding between us. I was under the impression that he had appointed a day later than the one upon which he came, but as regards his viewing the place, perhaps it was not so unlucky as I at first imagined; for he saw whatever he examined, in its every-day appearance. He expressed a desire that I might be induced to give you a description of some articles which he named. I consider that desire a sufficient inducement, and will endeavor to describe such things as I believe worthy the attention of an inquiring practical farmer.

I farm about one hundred acres of gradually undulating land, and so divided into lots, that a constant stream of water flows through each one. I will not detain you with the minutiae of the farm, but merely mention that we have five acres of the best ground appropriated to gardening. We have erected convenient hot-beds, for producing the earliest vegetables, and we pay much attention to the growing of choice and early fruit; my wife takes pleasure in superintending these things. Three o'clock every morning finds her employed, and each market-morning she offers for sale the products of her industry, arriving in the city of Philadelphia, a distance of over 4 miles, generally before the lamps are extinguished; but she never sells butter, as we have sometimes to purchase for our own family. I keep constantly about 45 milch cows, and 6 or 8 dry cows, which must be of the best kind or I part with them, and a thorough-bred Durham bull, of whom I am particularly fond, either because we raised him ourselves, or because I prefer the Durham breed, both for beauty and utility. The barn is built of stone; it is what is commonly called a bank-barn, with substantial walls, 104 feet long, 45 feet wide, 50 feet high, with steep roof. In this I have a coach-house 35 by 10 feet; a harness-room, which, though small, is very useful; a carpenter's shop in which there is a bench, with a variety of tools, so that if necessary we can manufacture a wheelbarrow, and do almost any work that is required about a farm, (no economical farmer should be without such a shop;) a thrashing-floor of the best plank, 45 by 17 feet; and adjoining this floor, a corn-crib attached to and projecting from the wall. In the lower part there is a room set apart for vegetables alone; this is 45 by 19 feet; also two lines of horse-stables 45 feet long, containing 10 stalls each, and between which there is an entry 7 feet wide, having a mortar floor; into this a funnel empties leading from the very top of the barn, and down which hay, &c., can be passed without any difficulty. We have always about 8 horses, so that one of these stables is appropriated to the calves and heifers. The calves are removed from their dams when only a day old. Projecting from the main building there is a wing forming a right-angle with it, 106 feet long, by 24 feet wide; at each

end of this wing a row of stalls runs parallel with the end walls, and between these there is another line parallel with the side walls, extending the full length between the end stalls, except allowing 2 feet at each end for a passage. The stalls are each 6 feet 2 inches long, and 3 feet 2 inches wide. The cows are fastened with the old English rod and chain, so constructed that when the cow lies down or arises, the chain moves with perfect freedom and without the slightest danger to her. Yet for keeping each cow in her proper place, behind the stalls there is a drop 14 inches wide, and 4 inches deep, and as the bedding is all cut fine, we have but little trouble in removing the offal. Between one wall and the drop there is a space of 6 feet, well planked and always covered with clean cut-straw; in this space there are tables to place the milk utensils upon, where they are free from harm. In front of the stalls there is an entry about 10 feet wide, with two flues or funnels, similar to those in the horse-stable.

For the dry stock we have a separate stable, 45 by 21 feet; joining the wing in this is the steam apparatus, occupying, however, but little room; being surrounded by solid stone-work which is in length 14 feet 4 inches, in width 5 feet 6 inches, in altitude 5 feet 6 inches. The fuel used is coal, and for a chimney we have a sheet-iron pipe passing along the wall outside, much higher than the roof. The boiler is supplied with water from a pump constructed for the purpose, only 21 feet distant, and connected by a wooden trough emptying into the boiler, so that not a drop of water need be carried. Three pipes from the boiler pass into the 10-foot entry, where they are attached to a large vat. One of these pipes is for cold water, another for boiling water, and the third for steam, so that in slippery weather we can water the cows in the stables, without exposing them to danger, and we can boil or steam the food, as we think proper, but I am partial to the latter. The large vat is 14 feet 4 inches long, 5 feet 6 inches wide, and 2 feet 6 inches deep. Adjoining it are two small vats or coolers, into which the food is placed to cool. This food is generally a mixture of small potatoes, malt-dust, ship-stuffs, &c., &c., cooked together, with hay cut into about inch lengths, by Greg's invention, of Wilmington, Delaware, which works upon the fly-wheel principle, moved by a small force, and cutting at any length, from $\frac{1}{2}$ inch to 2 or 3 inches. But no one can fully appreciate its merits until he has tried it.

Let us now look at the spring-house, &c., for a few moments. This house is arched and bottomed with brick, and the sides are of stone. It is 21 feet long by 18 feet wide, over an overflowing and powerful spring of water issuing from the rock. At the aperture in the wall where the water flows out, there is a small flood-gate, with which the water in the house can be raised as high as we wish, by which means the milk is preserved cool and sweet in the hottest weather. From the spring-house to the cow-stable there is a pathway, another to the horse-stable, and another to the dwelling; each 4 feet wide, laid with large flags, upon which we are able to walk from one place to the other in the most muddy season, both dry and

clean. Opposite the spring-house, at the distance of a few feet, there is a cleaning-house 19 by 13 feet, where the churns, &c., are scalded and washed, in which is a copper caldron, and a stream of water runs through it constantly. Next to this there is a scouring and polishing-room 22 by 20 feet, and here the utensils are prepared to receive the milk.

If you should ever visit Philadelphia again, I shall be happy to see you, and show you many things which I can not now mention. If, however, I have engaged your attention thus far, or rendered you any service, I will consider myself amply rewarded.

HENRY CHORLEY.

Falls of Schuylkill, Feb. 6, 1844.

THE BEST SHEEP COUNTRY.

YOUR correspondent Americus asks, "Where is the best sheep country?" One answers in Kentucky, another in Louisiana, and a third in Iowa Territory. I am satisfied that Iowa Territory possesses peculiar advantages with regard to sheep-farming. Thousands of sheep may be fed upon our prairies through the summer, and kept at a comparatively trifling expense through the winter, to the advantage of the wool-grower. As an example, I would refer to the flock of Mr. Moloy of this county, consisting of about 700 fine-wool sheep. They are turned out to feed upon the prairie, attended by the faithful shepherd-dogs by day, and guarded by them in pens by night during the summer; in winter they are kept in appropriate pens with sheds, and fed with corn, oats, hay, and fodder produced by sowing corn broad-cast, &c., all of which our soil produces in large quantities at a small expense. It is a healthy country for sheep, as experience shows, from the rapid increase of the little flocks which almost every farmer keeps for his own domestic convenience, in connexion with the fact that disease is seldom known among them. Sheep-husbandry is becoming a branch of considerable interest among us. Several large flocks are kept in this county; the Messrs. Kilbournes have 1100 sheep, 600 of them full-blood Merinos, driven from Ohio last summer, and all doing well. Cattle of the improved breeds are very numerous here. Mr. Josiah Henkle has some of the finest Durhams and Herefords that I have seen. The Berkshire, Irish, and Russia hogs are also very numerous among our improved breeds.

Iowa Territory is of a rich fertile soil. The rapid improvements which have been made within a few short years and are still making, show that it is settled by an industrious and enterprising people. Agricultural societies have been formed, and exhibitions held in this and other counties. I was informed that some very fine specimens of fruit were exhibited at the show of the Van Buren County Agricultural Society, held at Keosauqua last fall. Some interest is manifest with regard to the silk culture here; several of our neighbors have fine lots of the *Morus Multicaulis* mulberry; silk-worms also have been fed, and silk manufactured to some extent. Wheat, rye, corn, oats, barley, hemp, flax, &c., grow luxuriantly here; cotton has

been cultivated as an ornament in gardens, and grows to perfection.

JEREMIAH F. HUNT.

Lee County, Iowa, Feb. 6, 1844.

VALUE OF AGRICULTURAL PAPERS.

I HAVE been a subscriber to agricultural papers for more than 20 years, and have paid for them over \$100; and though I cultivate but a small farm, I am fully convinced that I have never laid out money, as a farmer, that has yielded me the same interest as that invested in the purchase of these valuable journals. It is not that a farmer can in such works learn everything he may want to know, or that he will be told everything that relates to his every-day business; but one of the greatest advantages to be derived from their perusal, is, the turning the mind to reflection—the cautions given—the suggestions hinted at—and the general principles inculcated.

ALEXANDER McDONALD.

Eufaula, Ala., March 2, 1844.

A NEW VARIETY OF SPRING-WHEAT.

THERE exists in this section of country a new variety (at least so considered here) of spring-wheat. The article was imported here a few years since from France, by a native of that country, who had there tested its virtues. The account given of it is this: In France it is called the bird-wheat, from a supposition that birds had carried the seed into a field of winter-wheat, from which it was originally selected by the owner of the field. On trial, it proved a valuable variety, and was rapidly extended. I think it is five years since it was first brought to this vicinity. Its reputation has increased with every year's trial, and the demand for seed this spring has far exceeded the supply, and this solely on account of its intrinsic merits, as I conceive, for no mention of it has ever been made public, and a knowledge of its existence (in this country at least) confined to a small district, comparatively.

The wheat is four-rowed and bearded, very strong stem, and can not be over-fed so much as to cause lodging, as the straw is very thick and firm. It is a great producer in good soils. Such is the character of the spring-wheat as I obtain it from an Englishman, a gardener by profession, who is neighbor to the introducer of the wheat into the country, and a pretty close observer of everything connected with agricultural interests.

JOS. C. G. KENNEDY.

Hillside, near Meadville, Pa., 30th April, 1844.

ADDITIONAL PREMIUMS.—At the last monthly meeting of the executive committee of the New York State Agricultural Society, premiums for Jacks and Mules were added to the list. Whenever anything additional is desired, it is only requisite to address the recording secretary, at Albany, Mr. Henry O'Reilly, who will take the earliest opportunity of bringing the suggestion before the executive committee. The society is disposed to be as varied and liberal in its premiums as its funds will admit.

NEW JERSEY FENCES.

BEING placed in circumstances which rendered the subject of the following observations of peculiar interest, it occurred to me that some of your readers might be in a situation which would render a communication on the subject not wholly unworthy of attention. That this matter will increase in interest with the cultivators of the soil in the older parts of the country, must be apparent to all who have given the least attention to the subject. Few now contemplate the purchase of a farm without making the state of the enclosures a paramount consideration—and not without reason. The supply of materials for the kind of fences hitherto in use is daily becoming more limited, consequently the expense increases; and the farmer finds that the fence is not one of those small secondary matters which his fathers before him considered it. Those upon old farms, with fences made to hand when they came into possession, do not seem to be aware of the call soon to be made upon their pockets. Let such look into the matter.

I was lately much surprised by the result of a calculation, made to ascertain the expense necessary to enclose and subdivide one hundred acres into fields of ten acres each. The estimate was made for that fence which our farmers (judging from their practice) think most economical. It was found that near 15,000 rails would be required, which at the prevailing prices, \$3 to \$4 per hundred, with the cartage included, would cost \$7.50. This calculation is made for rectangular fields. From the statements of the agricultural writers, and some observation, it is thought that the expense would vary but little in any part of the country from this estimate. Some practice and experience have since shown that it is rather under than over the mark. I propose to give a short statement of the expense, and a few observations concerning the various kinds of enclosure now in use in the northern part of New Jersey.

These are the Virginia or worm-fence, post and rail, or boards, and stone wall. For the first we generally use the cheapest quality of rails, cut 11 feet long, laid at a lap of 8 or 10 inches on each end, and an angle of 25 degrees across the line of fence, put up 6 rails high, with stakes and riders to complete and confine the whole. Two lengths or panels make but little more than one rod, and costs here as follows:—

14 rails, at 3 cents,.....	42
cartage,.....	25
setting,.....	10—77 cents.

The two stakes in each panel are estimated as one rail, according to the custom here prevailing. This fence has but one great advantage, which is, the ease and quickness of erection. This is a great object on new clearings, where the other labor necessary absorbs the whole time of the farmer; and the materials being on the ground, cost but little money.

Post and rail-fence is coming very much into fashion, and is certainly much superior to any other lumber fence in appearance, durability and effectiveness. The best quality of rails for this fence is made from chestnut timber of 8 or ten years

growth, split in two rails, costing with us \$4 per hundred, and posts \$8. Some farmers employ part of the winter months in the preparation of materials under shelter, where they can proceed during all weathers toward the erection of a fence, which occupies the least possible quantity of soil—is an effective barrier to stock of all kinds, and presents a neat and sightly appearance to the eye, whether the useful or ornamental be considered. It costs but little more than the worm-fence, if thus prepared when the farmer has abundant leisure, and labor is plenty and low. But the usual contract prices are taken as the basis of the following calculation. Two panels would require ten rails and two posts, making $1\frac{1}{4}$ rods of fence. We have then as follows:—

10 rails, at 4 cents,.....	40
2 posts, 8.....	16
cartage,.....	25
setting.....	32—\$1.13.

This sum, less one fourth, gives 85 cents per rod nearly. Now can it be supposed that any farmer would be guilty of renewing the old Virginia fence, for the trifling difference between the two? This last is the cheapest after all. It does not stand in need of those constant repairs and resettings of the former, which are no small tax upon every farm where they are found. The stakes rot off, are loosened by the frost, and the fence falls down here and there, slides off the stones on which it is set, and is one of those vexations which are only borne, because considered one of the "necessary evils." Board fences for field enclosures are very rare with us, although, from the adjacent lumber regions of Pennsylvania, a fence could be erected costing less at first, but also less substantial than those already considered.

But, with the farmers of northern New Jersey, at least, the stone-wall should stand pre-eminent; whether they look at the first cost, durability, or repairs, or as answering all the purposes of a good fence. It is, like the post and rail-fence, an effectual barrier against stock of all kinds, although some plead an exception for sheep. But who ever saw a sheep go over a five-foot stone wall, not already vitiated by bad fences? It is above their "line of vision." They can see nothing on the other side, to induce an attempt. Where a farmer is gathering the stones off his land, he should consider nothing but laying up, as the expense of enclosing his field. This can be done, and is done for 50 cents per rod, every item included. Some contractors draw the stone, and put up the wall for \$1 per rod, the farmer finding a team and boarding the laborers. Yet farmers seem greatly to neglect this kind of fence, even after the stones are gathered round the field. Nothing is more common than to see a field encircled with stones sufficient for a good fence, (and oftentimes for two,) with an unsightly worm-fence mounted thereon, a new rail stuck in here and there, propped up in one place and "bushed" in another, with a hedge on each side, and the whole occupying one third as many acres as the field enclosed contains. A less disagreeable but very poor combination of the stone and post-fence is sometimes made. A de-

ficiency of stones is the excuse, and it is said to be the best use of what they have. But would it not be better to take all the stones, for a complete stone-wall as far as they go, and enclose the remainder with posts and rails. Some think it an advantage to stone-wall, to be very wide at the bottom. This is a mistake. When it is more than 2½ or 3 feet wide, the frost acts very unequally, and causes the sides to settle more than the middle. A separation takes place, and the sides bulge out and fall down.* Where it is less than 3 feet, the whole settles equally, deeper every year, till out of the reach of the frost's action, and thus a natural trench is formed. This is sometimes done at first with pick and shovel, but its importance has been greatly overrated where the wall is rightly constructed. A. R. D.

Hackett's Town, N. J., Jan., 1844.

THE COW-PEA—PEACH—CUBA-TOBACCO, &c.

The Cow-Pea as a Fertilizer, its Culture and value for Fodder.—I am convinced, from the limited experiments I have as yet had it in my power to make, that the cow-pea is one of the very best, and certainly the cheapest fertilizer that we can employ in the south. By some it is looked upon as an exhausting crop, nor is it to be wondered at that it should be so. Land that is tolerably poor is of preference selected, as there the pea goes less to vine, and *Pods* more abundantly; and just before frost, the entire plant, root and all, is pulled up and cured for fodder! I was forced to do this once, but will not try it again. Even then, however, the land was somewhat improved, as the leaves had all dropped before I felt forced to *skin* so deeply, by the prospect of being short of fodder, and the ground was so effectually shaded all summer.

I will now suggest some experiments, which, if I live another year or two, I shall try. I am unfortunately situated like too many of my brother planters, and have little leisure for anything but cotton-making. Where a planter aims at producing, to as great a certainty as possible, as much cotton as his hands can pick, up to Christmas day, he has no time for other occupation. If we could be satisfied with as much as could be saved before the 1st December, something could be done in the way of improvement. The making of sufficient manure for a large plantation, and hauling it out when made, seem heavy tasks, and they are so. Yet it would certainly be just as easy to make and apply three times as much manure on a plantation working thirty hands, with of course teams in proportion, as on one of ten hands. The waste of valuable manure on plantations is very great, and it will be many years before much improvement is effected.

I propose to select ten acres of poor land, which I will have well plowed, and as early as 1st to

* NOTE.—We think if long stones are laid across the whole width of the wall, at every other course in laying it up, that it would settle as evenly as a narrow wall, for we have occasionally seen those thus constructed, which have already stood well from 40 to 50 years, and are likely to remain as much longer without bulging.—Ed.

15th March planted in cow-peas sufficiently close to give a good and early covering to the ground. Peas planted early produce more *vine* and fewer *seed* than when planted late. So soon as they begin to blossom freely, I shall have them turned completely under, and another crop of peas immediately planted. The second crop I intend shall stand to ripen, when I will turn *hogs* upon them, but no cattle, so that the leaves and vines will be almost all returned to the soil. One half of the lot I will have turned over deeply in the fall, the other half in the spring, planting one half of each five acres in cotton, and the other half in corn. It was my intention to experiment in this way this season, but circumstances render it impossible to any extent. That such a course will do more for our land here than the turning under of a crop of clover will in the north, is obvious. The quantity of vegetable matter on the ground, other things being equal, is vastly greater—I should say some three fold; the roots are few, one long tap-root only, with a few slight fibres; the vines and leaves large and extremely succulent, completely shading and protecting the soil from the sun; and the plant is of but a very few weeks growth. The cow-pea requires little or no culture, which is in favor of its value for this purpose—a bull-tongue plow run along each side of the row will suffice, though even this may be dispensed with. I would not wish to have it thought that I am advancing what I suppose to be a new idea, in advocating the value of this plant for this purpose. It has already been *discussed* in all its bearings, but has been *but little tried*. My object is to induce a few such trials as that I have proposed. If our agricultural societies would give prizes for the best conducted and most successful experiments of the kind, they would do infinitely more good than by the course they at present pursue.

As a fodder-making crop, the cow-pea is invaluable. It is, like clover, difficult to save, but when saved, of greater value. This I have tested. I had a plan for gathering and saving pea-fodder, suggested to me the other day, that is well-suited to the cotton plantation, and which I shall practise when the vines are sufficiently matured, and plentifully covered with their long, well-filled pods; namely, run a heavy, iron-toothed, two-horse harrow over them, and as the harrow becomes loaded with vines, lift it up and pass on. By this means, the vines are rapidly gathered into piles, with a little dirt perhaps among them, which will shake out in curing. They are then put up in rail pens in the usual way. You must bear in mind, when you see such a mode recommended for harvesting a crop, that to *cradle* the cow-pea is impossible; to cut them with scythe or sickle, a slow, troublesome business; and that the most convenient and common practice is to pull them up, root and all, by hand. Their growth resembles that of none of your northern peas; but is rather that of a gigantic clover, with vines of *any length* under say 8 to 15 feet. The pods are very numerous, generally in pairs, and contain each some 15 to 25 peas, which afford most excellent and nutritious food for man and beast. One of the most extensive and experienced planters in the adjoin-

ing county of Jefferson, killed upward of 700 head of hogs for the supply of his own family, (and had not enough then,) which were fattened *entirely* in the pea-fields.

Peach and Fig Orchard.—I have just completed the planting of a small peach and fig orchard here, embracing 350 trees of the former, and 50 of the latter; and three hands, besides what assistance I gave myself, have been busily occupied three days in doing it; two more following up and giving each tree a couple of buckets of water. I would certainly prefer that they had been planted last fall, but it rained so incessantly, that it was impracticable. The peach-trees are one year's growth from the kernel, and will be budded where they stand this summer. I would rather have had the kernel dropped where the trees now stand; but that, too, was impracticable. I shall cultivate the ground this season in Irish potatoes and early corn, both followed by peas and sweet-potatoes; some of it will be in pindars, and some poor spots in peas, *to be turned under green*, followed by peas again, turned under. Each tree shall receive during the summer, a good barrowful of pure marl, placed immediately around it.

The Yellows.—From what I see in various papers, the disease called yellows is rapidly spreading among the peach-trees all around you. Opinions as to its nature and origin seem various enough, but I see no plausible method of cure or prevention. From what I have seen of it, I have no doubt of its being a disease *sui generis*, and if occasioned by an insect, certainly not by the *Ageria Exilis*. So far as I can learn, the yellows is altogether or nearly unknown here, while the egeria is sufficiently troublesome. The peach-tree dies, with us, only of old age and neglect. Such *extravagant* crops I have never seen anywhere—so heavy that the trees are seriously injured thereby. This is the worst kind of neglect. The fruit, when so very numerous, should be thinned out when as large as pigeon's eggs, both to improve the quality and to favor the tree. You will find a short article on "the causes of decay in peach-trees, and their prevention," in a little almanac I prepared in 1842, which contains the results of my experience and observation on this subject.*

Some one suggested at a recent meeting of your excellent New York Farmer's Club, that young trees produced from Mexican peach-stones, were free from yellows. I have no doubt that those from this part of the country would be equally so; and if it would be any object to some of your friends, sufferers from this disease, (and subscribers to at least two agricultural papers—you know my rule!) to try whether or no, I should take pleasure in saving some pits for them this summer, as we have so far this season, the prospect of a full crop of every kind of fruit, which, however, *might be blasted* by a late frost. Peach, plum, pear, and fig-trees are all in full bloom, and

* NOTE.—From the date of this letter our readers will see, that Mr. Affleck, when he wrote, could not have yet seen the able article on the Peach-Tree, by S. S., which appeared in our February and March numbers for this volume. In that, the yellows is attributed to the aphides or plant-lice.—ED.

have been for two weeks past. It is rare, indeed, that our peach-trees *repudiate the debt* they owe the careful cultivator; so that even your fastidious New Yorkers need not mistrust them, though they do come from Mississippi!

Cuba-Tobacco.—I wish to express my thanks, as one much interested in the introduction of additional staple crops to the south, to the author of that article on the culture and curing, &c., of Cuba-tobacco, copied in the last volume of the *Agriculturist*, page 313. I hope that it will be the means of inducing a fair trial to be made, of its value as a crop. There are always upon plantations of any size, several hands, who could be much more profitably employed at in-door work, such as cigar-making, during inclement weather, and indeed during all the year, unless in cotton-picking time. It is undoubtedly for the interest of the cotton-planter to use every means in his power to find profitable employment for as many hands as possible out of the cotton crop, so as to lessen the production of that staple. There ought to be an annual convention of cotton-planters held in New Orleans, to discuss and devise means for advancing and sustaining their interests as a body. But I fear I shall not live to see that day, when any such measures will be carried out. But to return to our subject. I have now three small parcels of Cuba tobacco-seed in the ground, superior imported seed, and I intend following implicitly the course laid down in that article. You shall hear the result.

Migration of Birds.—They must have had a moderate, open winter north, and northwest of us, to what they had during that of '42 and '43, if we may judge from the movements or migration of the birds, a subject which is deserving of more notice from farmers, and of record in farming papers than it receives. During the winter preceding this, the open commons, pastures, and cotton-fields, were frequented, for several weeks, by large flocks of a plover, which I am inclined to think is the golden-plover, (*charadrius pluvialis* of Wilson,) though differing slightly in its markings and size. They afford capital eating, as I proved to the extent of sundry dozens. The same birds are to be found in vast numbers on the prairies of Illinois, during an open winter or early spring, and I presume were driven thus far south by the severity of that season there. The robin (*T. Migratorius*) and the cedar-bird (*Ampelis Americana*) were also unusually numerous. This past winter, neither robins nor plovers have been seen, and but very few cedar-birds. The sand-hill crane is also but poorly represented this season.

The Season.—I was told, last week, that one of the most experienced overseers in Concordia parish, opposite us here, had finished planting upward of 300 acres of cotton. This is unusually early—three weeks too early, at least. Certainly the weather for the last four weeks has been very tempting—would rate as a pretty full average sample of your summer assortment! I have in two thirds of my corn crop, and am nearly ready for my cotton-planting; and, from what I can learn, I am fully up with my neighbors. THOMAS AFFLECK.

Ingleside, Adams Co., Miss., March 5, 1844.

LONG-WOOL SHEEP.

My attention has been drawn to an article in your journal, Vol. II., page 209, entitled "The Best Sheep Country," in which the writer asks the following questions:—

1. Will the quality of wool obtained from a Cotswold or New Leicester sheep compensate for its reduced price?

2. What would be the cost of importing from England, via. New Orleans, into this territory, South Down, Cotswold, or New Leicester sheep, and what is the price of such sheep in England?

Having had experience of some 20 years in breeding the different kinds of long-woolled English mutton-sheep, I purpose to answer the above questions as briefly as possible. As facts are ever to be preferred to supposition, I can not more satisfactorily answer said questions, than by reciting such facts as have occurred to me in my own experience as a breeder, which may apply to the case in hand, and by which the reader may ascertain the comparative value of the mutton, with the smaller and finer-woolled sheep.

In the commencement of my sheep-growing, I turned most of my lambs (which were a cross from full-blood, long-woolled bucks, on the common sheep of our country) to the butcher, at the age of from 3 to 5 months old, at prices varying from \$2.50 to \$3.50 per head. The ewes from which I bred were well-selected, and cost from \$2.00 to \$2.50 per head, and I almost invariably fattened them the same year, and replaced them by a new flock. In this way I was enabled to make a fair profit on the ewes, the lambs, and the wool. The lambs I replaced with an equal number of wethers, which I stall-fed the following winter. These last cost me per head about what my lambs brought, and generally paid 50 per cent. on the first cost, and sometimes more. This method I pursued until about 10 years since, when I found that the general introduction of the Saxon sheep, with their crosses on the Merino and native breeds, had so depreciated the size and constitution of our sheep, that it became quite impossible (as it now is) to obtain from this stock, ewes fit to breed market lambs and wethers, of the quality requisite to be fed for the shambles. Such being the case, a new system of sheep-husbandry was to be adopted, and I soon resolved upon a course which I have since pursued, and that was to raise wethers for the market, and to keep a good and well-assorted flock from which to supply those who wished to purchase. To do this I knew required a large outlay both of money and trouble, to say nothing of the risk ever attending a new enterprise.

And here, Mr. Editor, allow me to suggest, that I think that our American farmers, too generally, are unwilling to incur much expense for the advancement of that art which they have adopted as their study through life. They are all willing to have good stock on their farms, but not at the expense of any extra outlay. They are willing to profit by a neighbor's enterprise, and to lend their encouragement just so far as it does not cost anything. This is all wrong. There should be the same community of interest existing among, and the same mutual encouragement extended from

the farmers to one another, as between the merchants and manufacturers, who are proverbial for contributing to the advancement of their own peculiar callings.

But to return. At the time spoken of, the Bakewell sheep were most in vogue, and for a buck of that breed I had paid as high as \$60. This blood did not suit me; the constitution of these sheep not being sufficiently strong for our cold winters. I therefore resolved to make an importation on my own account, which I did in the year 1835, consisting of two pairs of sheep, one Cotswold and the other Lincolnshire. Their cost in England was \$25 per head, and about the same was paid for cost of transportation to New York. The first lot of wethers produced from these bucks, I sold the winter of 1839 in New York market for a little over \$31 per head, and the next year, in a falling market, I sold a second lot for \$20 per head. In the year 1836, I purchased in New York one buck and sixteen ewes, being, with the exception of about three pairs of sheep, the whole of an importation, made by an English gentleman, direct from the county of Lincolnshire, England. What they cost in England I know not, but the pairs that were sold out of the importation brought from \$300 to \$400 per pair, and I gave over \$800 for the 17 sheep, which I consider one of the best purchases I ever made.

In the year 1840, at the Fair in New York, I purchased a buck and ewe, (Lincolnshire,) just imported, for \$200, and at the present moment, I have a friend who has engaged to bring me the best pair of sheep ever imported into the United States. I hope he may do so. Thus it will be perceived that I have made large outlays in order to improve my flock, and I take just pride in saying, that thus far I have been amply repaid for my pains. I raise sheep both for the farmer and for the butcher.

During the last two or three years, the agricultural interest has been greatly depressed, yet I have realized from my wethers, from \$8 to \$10 per head. I have sold within the last few years a large number of both bucks and ewes for breeding, at prices varying from \$25 to \$50 per head for the former, and from \$10 to \$25 per head for the latter; and in some instances for a very fine specimen, I have obtained \$200 per pair. During the twelve months just passed, blood stock has brought but a meagre price, and buyers have been scarce at that. Now, however, the prospect is better, and inquiries are made from various quarters, for fine sheep particularly. There are plenty of good sheep and fine cattle bred in our own country, equal if not superior to anything that can be imported, and which can be furnished to the purchaser at rates much less than it will cost to bring them from England—and it is but demanding justice to ask, that our own breeders and producers should be encouraged, in preference to those of foreign countries, when the article furnished is equally good in the one case as in the other. Thus far I have spoken more particularly of the mutton-qualities of the long-woolled sheep. I will now refer more particularly to the wool itself.

Is is a well-known fact, that the coarser wools are higher in proportion and in better demand than the fine. In our market, wool has to be of the very finest quality to command an extra price. Fair, and middling fine wool, and long wool bring about the same price—mixed lots go at one price. A Saxon sheep will average from 2 to 2½ lbs; a long-woolled sheep from 6 to 8 lbs. The former now brings 50 cents per lb., the latter 30 cents. The difference, it will be seen, is in favor of the latter.

Permit me here to introduce a paragraph taken from a letter written by one of my manufacturing correspondents of Boston. "I am glad to learn that the attention of those engaged in sheep-husbandry is now turning toward long-woolled sheep. They are now valuable not only for their superior mutton, but for the character and value of their wool. This arises from the fact that we of the northern states are commencing the manufacturing of mouslin-de-laines, and other fabrics, which require the long wool."

In a late number of the *Pennsylvania Inquirer* and *National Gazette*, I perceive that great man, Daniel Webster, whose name should be dear to every American farmer and manufacturer, has spoken to the like effect. "He begins to think that the time is approaching when long wool will be in great demand for the use of American manufacturing establishments, and that if he were a young farmer he would have some *Lincolnshire* sheep that would produce him annually 15 lbs. of wool." In conclusion, allow me to say for the benefit of your western correspondent, that I think the western country is well adapted to the cultivation of sheep, owing to the uniformly mild winters in those districts, and to the abundant supply of grass upon the extended prairies. Besides this, the long-woolled sheep are proverbially tame and domestic, and hence are easily guarded and kept. Many fine sheep have already gone to that country, and among the number, 15 bucks and two ewes from my own flock, which I sold to an enterprising merchant of New York, who sent them to his farm on or near Rock River in Illinois.

In that country wool is very valuable, and will continue to be so no doubt for years to come, for the reason that there is a constant and large domestic consumption. If the mutton can not be sold, it can be melted for the tallow. A well-fatted, full-grown *Cotswold* or *Lincolnshire* sheep will produce from 50 to 100 lbs. of tallow. This can be sold in the same way as lard. Thus I have answered, though not in order, the inquiries of your correspondent, and I trust that what I have said may be satisfactory to him.

LEONARD D. CLIFT.

Carmel, March 1, 1844.

FATTING STEERS.

At your request I send the following account of the five steers kept over winter. I bought them in October last, at \$22.50 per head, pastured them a short time, and took them up 2d November, keeping them in the barn in stalls all winter, ex-

cepting a short time morning and afternoon, when they were turned into the yard to water and have their beds made. From 2d November to 2d December, they were fed twice a day, each time on a bundle of cut corn-blades, ½ bushel beets (*mangel-wurtzel* or sugar-beet,) and ¼ bushel corn and cob-meal ground together; this mess mixed up and divided among the five. In the place of hay, I gave them each a bundle of corn-blades, cut in half with a broad-axe, and fed morning and evening. They had access to salt from a box in the barn-yard, besides some little mixed in their feed. From 2d December to 23d January, I gave them ½ bushel meal, 2 bundles of cut-blades, and 1 bushel beets, mixed and fed twice a day as before. This mess was put on at night in a large boiler and cooked, taken out and fed in the morning, when a similar mess was put on for the evening feed. Corn-blades cut with a broad-axe and fed as before as a substitute for hay. After the cattle had eaten off the leaves from the stalks they were passed through the cutting-machine (*Briggs' patent*) and thrown into the barn-yard. The cattle were carded every morning.

From 23d January to 4th March, (on which day I sold them at \$33 per head,) they were fed three times per day; feed cooked each time, and consisted of ¾ bushel of meal, 2 bundles corn-blades, 1 bushel beets, and the intervening time, with about 8 lbs. per day of coarse clover hay each. I should have done better with the steers, had not one of them been quite sick the early part of the winter, injuring the sale of the others. The meal given these cattle would have sold for about \$36, the hay for about \$8, making \$44; which gives expense per head about \$9. This does not include the beets. My stock of cattle this winter has been 10 head, (one a calf,) and I have now in the yard about 170 large loads of good manure; for all my corn-blades are cut fine before going into the barn-yard. From the fall of '42, to November '43, I made about 300 loads of manure. I advocate every farmer making his own manure. The cattle were soiled all summer. This statement I believe correct, as I have kept a regular account of the feed, and if my experiment be of any benefit to the farming community I shall be glad.

JNO. M. C. VALK.

Carolina Hall, Flushing, L. I., March 7, 1844.

ELDER-BERRY WINE.

To EVERY quart of berries, put 2 quarts of water; boil half an hour, then run the liquor and break the fruit through a hair-sieve. To every gallon of this juice add 3 lbs. coarse brown-sugar, and ¼ lb. each of ginger, cloves, cinnamon, and Jamaica-pepper, and boil the whole a quarter of an hour. Now pour the liquor into a tub, and when of a proper warmth, add a large crust of toasted bread well saturated in yeast, and let it work till the next day; then put it into a keg and work till it ceases to hiss; after which, add 1 quart brandy to every 8 gallons of liquor, and stop up the cask.

MRS. S.

Albany, March, 1844.

STATISTICS OF FRUIT.

As THERE seems to be at this time a general awakening on the subject of fruits, their culture, &c., all statistics on that subject will probably have an interest for your readers, and I therefore append the following calculation of the value of fruit, *per individual*, raised in each state. The data upon which this is based, is Mr. Ellsworth's Report of Population and Production for 1840. Leaving out fractions, the calculation stands thus:—

Per person.	Per person.
New Jersey,.....\$1,24	Rhode Island,.....\$0,26
Connecticut,..... 96	Missouri,..... 24
New Hampshire,... 84	Georgia,..... 23
Vermont,..... 73	Maryland,..... 22
New York,..... 70	Indiana,..... 16
Virginia,..... 57	Arkansas,..... 12
Kentucky,..... 56	S. Carolina,..... 09
Massachusetts,.... 53	Alabama,..... 09
N. Carolina,..... 51	Michigan,..... 08
Tennessee,..... 44	Dist. Columbia,.... 08
Pennsylvania,..... 36	Mississippi,..... 04
Delaware,..... 36	Louisiana,..... 03
Ohio,..... 31	Florida,..... 02
Maine,..... 29	Wisconsin and Iowa
Illinois,..... 27	each one tenth of 1 ct.

Average in all the states, 45 cents each person.

It might be a curious subject for investigation, for some one fond of such inquiries, to see if some connexions could not be traced between the quantity of fruit raised in each state, and its general healthfulness. That good fruit is a great promoter of health there is now no question; the respected opinions of our grand-parents to the contrary notwithstanding. It would seem, from present indications, the day is not far distant when we shall have a much more bountiful supply of fine fruits than at present, and as a consequence, *purer blood and less feverish brains!*

In evidence of this increasing interest, on inquiring the other day at one of your large agricultural warehouses for a tree-scraper, I was informed that an instrument for the purpose was formerly made at the eastward, but its manufacture had been discontinued, for the best of all reasons, the want of demand; but that there had been more inquiries for the article within the last year, than in all the ten years previously. A ship-scraper, with one of the points rounded on the grindstone, so as the better to get into the crotches of the tree, answers every purpose.

S. C. HIGGINSON.

Newburgh, April 2d, 1844.

NORTHERN CALENDAR FOR JUNE.

In the north, this is the most active month for vegetation of the whole year. It becomes the farmer, therefore, to be stirring with the lark, and watch attentively the whole circle of his fields. Nothing should be neglected. The potatoes designed for winter should now be planted; ruta bagas sown, and if any vacancies occur in the sugar-beet and mangol-wurzel beds, they should be filled up by transplanting. The ruta-baga is one of the most important crops of Great Britain, but though a useful one in this country, the un-

certainty of it compared with many others, and its far inferior value to Indian corn, to which our climate and soil is perfectly adapted, render it but of secondary consequence. By many who have tried each, the sugar-beet is much preferred for feeding stock; and it is certain the latter will keep longest without injury; and in most parts of the country it is a much surer crop, suffering less from drought, and vastly less from insects. Davy, who analysed them, gives for ruta-bagas, only 64 parts in 1,000 as nutritive matter, while he found 136 in mangol-wurzel, and 146½ in 1,000 in the sugar-beet. Where an early crop is taken off the land, ruta-bagas, and even the common white turnep, may be raised to advantage, as they may be sown after any other crop, and still have time to insure a good growth. Ground bones are a most excellent manure for every variety of turnep, as is also lime. The last may be used to great advantage with almost all crops and soils, when not already found in them in abundance. The plow, harrow, cultivator, and hoe, ought to be plied constantly, the surface kept finely pulverized, and all weeds exterminated. It will frequently save a vast deal of labor to the farmer, to go through his fields of wheat, oats, and barley, and pull up all the noxious intruders, chess, cockle, charlock, red-root, &c. The garden requires particular attention during this month. *Keep the weeds out and the useful vegetables in.* As soon as the early radishes, lettuce, &c., are taken off, supply their places with cabbage-plants, turneps, late beans, and peas. Leave no nook or corner unoccupied, and remember that it will require fifty times the labor to extirpate the progeny the following year, that is necessary for extirpating the weeds that are suffered to seed this. Weedy fields and hard sods intended for wheat in the fall ought to be plowed during this month, cross-plowed in July, and if necessary, again before sowing. Land intended for buckwheat, should be prepared, and though the old rule is to sow when the chestnut blossoms appear, it is a safer one, to get it in somewhat earlier, especially on lands subject to early frost. Sheep ought to be carefully looked at after shearing. Cold, drenching rains are peculiarly hurtful to them at such times. In 1842, large numbers, in the state of New York, were chilled to death in June. Unless they have dry, well-sheltered fields to run in, and are stout, well-fleshed, and hardy, they should be driven home, for the night at least, and provided with a little grain, beans, or roots. A supply of salt in troughs, where it is not liable to waste from rains, should at all times be within their reach. Always have tar at the bottom of the trough. This last precaution prevents worms in their heads, and has a general healthful effect. Some of the early grasses and clovers may be cut, and when put up, add salt to the extent required by the animal while feeding: animals like salt with their food, as well as man. Renew your fields of broad-cast or drilled-corn for soiling. Look well to your bees; many swarms will come out this month, and your hives must all be in readiness. Their preparation for swarming may be known by their clustering on the outside of the hive, and a peculiar piping noise from the new queen. Use some of the improved hives, so as to secure your share of the honey without endangering the lives of the bees. Watch the moths closely, and kill them as they are found; and when they have made their way into the hives, get at them there and exterminate them, as soon as possible.

KITCHEN GARDEN.—The main point in this month, is to keep the garden entirely clear of weeds, as their growth will now be very luxuriant, and if thoroughly subdued, will be much more easily kept out the succeeding months. This is especially requisite with cu-

cumbers and melons, around which keep the ground entirely clean and loose. Sweet-potatoes cultivate well, and draw the earth up about the roots. Cabbages for autumn and winter use, can be planted out, and celery plants be transferred into trenches. Peas may be sown for late crops, although they do not bear so abundantly as those sown earlier in the season. Sow lettuce, and transplant every week, in order to insure a regular succession through the season. This should be done in moist weather, or if in dry weather, late in the afternoon, accompanied with a plentiful watering. During the month sow kidney and other beans, for successive crops, and in the early part of the month, a few Lima beans may be planted for a late supply. Turneps for late crops may also be sown in this month.

FRUIT-GARDEN AND ORCHARD.—During this month apple and other fruit-trees can be trimmed. For this work, the present season is preferable to the winter, for the reason that the sap, being in full circulation, will exude, and covering the wound, heal it in a short time. On the contrary, in the winter, no sap can exude, and the branch will frequently be quite dead for some inches from the wound. All useless limbs and upright shoots cut away, and let the tree be trimmed to an open head. In plum-trees, all black knots, formed by the insect, must be taken off and burnt, or the disease will spread rapidly. Cherries will not bear much pruning, and it is generally best to allow them to grow naturally. Stone fruits frequently bear in such profusion, that the tree is unable to mature them all, and they are thus of comparatively small size. To remedy this, the cultivator should thin out the fruit by hand, leaving only a moderate crop; the nourishment of the tree being thus devoted to a limited quantity, will produce a larger and more delicious fruit. When trees are allowed to bear too abundantly, the great efforts made to mature all their fruit, will sometimes exhaust them to such a degree as to induce diseases, from which it will often take them several years to recover. During this month, insects will frequently attack fruit-trees in great numbers. For some of these, as the slugs and others of the same nature, a sprinkling of ashes or lime is the most immediately destructive. For the aphids and smaller insects of the same habits, a solution of whale-oil soap, applied with a syringe, is the most efficacious. Caterpillars can be destroyed while they are yet in small clusters, by means of burning sulphur.

FLOWER-GARDEN AND PLEASURE-GROUNDS.—Plant out in the borders perennial and autumnal herbaceous plants, which have been sown in seed-beds. This should be done near evening, and always accompanied with watering, unless the weather be moist or wet. Box-edging can still be trimmed during moist weather, as also hedges of privet, hawthorn, &c., although for these latter, earlier in the season would have been preferable. The turf in the pleasure-grounds and lawns keep well mowed; the oftener this is done, the more rich and velvety appearance it will assume. The gravel-walks and carriage-drives keep cleaned, and free from weeds and grass throughout the summer.

It is in this month that the numerous wild flowers of our fields and woods abound in the greatest beauty and luxuriance; many of these are exceedingly beautiful, and well worthy of cultivation in the private garden. The lobelia-cardinalis, which abounds in the swamps, is one of the most splendid of these, and with many others has been transferred to our own garden with entire success. To insure their living, a portion of the natural soil should be transplanted with the roots, and a moist day, or late in the afternoon, selec-

ted for the purpose. Apply frequent watering for some days after. There are few who have not admired these gems, which so thickly cover nature's carpet; and when they can be so easily transferred to the parterre, neither the botanist nor amateur should be willing to deprive himself of so cheaply-purchased a pleasure. In case of drought it would be advisable to make frequent use of water in the flower-borders, and also in the strawberry-beds, by which this fruit will be enabled more fully to develop itself, and the plants produce a more abundant crop.

SOUTHERN CALENDAR FOR JUNE.

WARM weather will now have commenced in earnest, and it is "*a merciful man who is merciful to his beast.*" Call all hands at noon, and after having fed and curried all the working animals, let them be allowed to rest until three o'clock; for they can do as much work in the remainder of the day, as though they were at work the whole time.

By the first of this month the cultivation of a greater portion of the plant and ratoon-cane will have been completed. Continue to plow among the cane in old land until July, but not too deep, for there will be danger of hurting the roots.

Keep cotton and tobacco clean—stirring the earth often; this not only keeps the weeds down but greatly assists it in *resisting drought*. The cotton will require the hoes to be passing through, so as to clear away grass and weeds left by the plow. Draw earth lightly around the plant, but leave no ridges as thrown by the plow; for there will be less surface exposed to the sun's rays.

Early corn will be forward enough to give the last plowing, which should be just before the time that the tassel makes its appearance. Plant peas between the corn as directed last month.

The grain-crop not yet harvested now claims attention. After oats are cut and stacked, it would be a great benefit to the field and stock, to plow in all stubble and sow down with peas, at the rate of a half bushel to an acre and even more.

The first planting of sweet-potatoes will now require the last working. Lay the vines on the ridges, and start the shovel-plows to run three or more furrows between them. Draw the earth with hoes to the top of the ridges, and be careful the ends of the vine are not covered. Continue to plant out drawings on the vine all this month, whenever the weather is suitable. The vines make the best seed, and may be planted as follows: Cut them about a foot long; have a hole made in the ridge with a dibble; then, either with a stick with a notch cut in one end, or with the finger, thrust down a vine or two doubled; press the earth well around, leaving an inch or two out of the earth. For a winter's use of fresh potatoes, procure the long red variety, and plant in rich low ground. They are great yielders, and ripen fully in a southern climate, and consequently prove a much better variety than at the north. They will make a good crop if planted by the middle of this month.

Clip hops for drying, and evergreens if they are much grown, but not otherwise, as the heat will be liable to dry them too much. Begin to sow carrots in drills, to facilitate the weeding of them. Sow endive for fall crop, and black runner beans. Soon after sowing, water and shade the drills if necessary, until they have come up and are strong enough to bear the heat of the sun.

See Northern Calendar for July and August.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamship *Britannia*, we are in receipt of our European journals to the 4th of May.

MARKETS.—*Ashes* have fallen a trifle and are dull of sale. *Cotton*. The downward tendency of this article seems to have been checked, and the sales were extensive with a firmer feeling. The stock on hand at Liverpool on the 1st of May, was 656,000 bales, against 780,000 at the same period last season. *Flour* was quite depressed, but it was thought prices had reached their lowest notch. *Cheese*, there is so small a stock on hand, that prices are merely nominal. *Beef* has improved a shade, a large stock on hand. *Pork*, without change. *Hams*, dull. *Lard*, in moderate request. *Lard-Oil*, none on hand, prices therefore nominal—it would sell well now if in market. *Tallow*, firm, *Rice*, steady. *Tar*, the same. *Turpentine*, on the advance. *Tobacco* is increasing in demand, and prices firmer.

Money continues abundant as ever.

American Stocks, scarce any transactions—prices merely nominal.

Business generally good and on the increase.

The Weather had been very mild through April, and prospect of a good harvest not only in England but on the continent.

The Duty on Vinegar is abolished, and we should suppose now that it could be exported at a profit.

The Duty on Wool is also taken off, thus giving us a chance in the British market, as soon as we can grow wool cheap enough for exportation; which we think will ere long be done on our broad prairies.

The following summary is made up principally from the *Edinburgh Quar. Jour. of Ag.*, *Royal Ag. Jour.*, *Far. Mag.*, *New Far. Jour.*, *British Far. Mag.*, *Far. Herald*, *Lindley's Gar. Chron.*, and *Veterinarian*.

Importations of Cheese.—During the year ending January 5th, 179,389 cwt. of cheese were imported into Great Britain, of which 48,312 cwt. were from the United States.

Durham Bulls in France.—Nine of these fine animals have been sold at the Veterinary school of Alford, the highest price paid was 3000*f.* (\$600.)

Large Cow.—A cow was lately killed in Durham, whose gross weight was 2,156 lbs.

Three Calves.—A cow at Stoke Prior, recently dropped three calves at one birth; one black, another red, and the third grizzle. They are all alive and doing well.

Incendiarism.—It is painful to notice that there is no cessation among the peasantry, in firing the stacks of wheat and other grain in different parts of England.

Death by a Boar.—A Mr. Fisher was recently killed at Upton, by having his thigh badly bitten by a boar. It is supposed the enraged animal cut the femoral artery with his tusks, as Mr. F. bled to death in a few minutes.

Agricultural Colleges.—We see that it is contemplated establishing several of these institutions, in different parts of Great Britain.

Ripe Peaches were produced at Easington Park, Warwickshire, on the 7th of April. Mr. Hutchinson, the gardener, thinks he shall be able to produce them another year in March. He grew them in the pinery, from a border 6 feet wide and 18 inches deep, filled up with pasture-loam of medium strength, put in as rough as possible. He says, to make peach-borders wide and deep, and to fill up with rich manures, is a waste of money. He much prefers syringing to smoking to keep his trees clean.

African Guano.—The best of this comes from the island of Ichaboe.

Syrian Fruits.—John Barker, Esq., lately H. M.'s consul at Aleppo, after a residence of more than 40 years in the east, has returned to this country with trees of many new and valuable fruits. Among them are several peaches, nectarines, and apricots with sweet kernels. These, when grown in Syria side by side with the finest of the varieties known in Europe, are said to have proved as superior to the latter as they are to the worst sorts of which we have any knowledge. Mr. Barker also possesses a white-mulberry from Armenia, so sweet that its fruit is dried like raisins, and so juicy that when pressed it produces the syrup in which the delicious butter of Armenia is brought to Aleppo. We shall watch with great interest the period when these fruit-trees yield their first crop in this country.

Bees.—A hive which was opened by Swammerdam, was found to contain one queen bee, 33 males or drones, 5,635 working-bees, 45 eggs, and 150 worms. Total population, 5,864; for whose accommodation there were 3,392 wax cells for the use of the working-bees, 62 cells containing bees' bread, and 236 cells in which honey had been deposited; in all 3,620 cells. From this observation it may be presumed the hives contain from 5,000 to 6,000 inhabitants, among which there is only one female, viz., the queen bee, and from 3,000 to 4,000 cells.

Glass Milk-Pans.—Milk set in these produces a better quality of butter than any other. Those used are made of the common green bottle-glass.

To Preserve Turneps from the Fly.—A day or two before sowing, put the seed into a sieve and tub of clean water, and rub it quite clean through the sieve, changing the water once or twice; dry it in the sun under a wall or glass, or before a fire. A little flour of brimstone may be mixed with the seed while still damp. If the egg of the turnep-flea is committed to the soil with the seed, this is an effectual preventive.

Tussac-Grass.—All the seed of this valuable grass sent to England from the Falkland Islands, has failed to vegetate, and in consequence of this it is contemplated importing tufts of the grass with roots for propagation.

Destruction of Insects.—Mr. Read of Regent Circus, Piccadilly, had leave given him to submit to the inspection of the council his garden-syringes for throwing currents of aqueous vapor or narcotic fumes over the surfaces of trees and plants infested with noxious insects, without the slightest injury to their bloom or foliage. By an ingenious arrangement of the nozzles of the syringes, the currents could be directed to any given point without inconvenience to the operator; and water being introduced into the syringe in its liquid state, passed out through the nozzle as vapor or mist, settling on the plants as the gentle dew.

Sources of Ammonia.—According to Dr. Ure, in the year 1838 the quantity of coal distilled in London alone amounted to 180,000 tons, containing at 1 per cent. 4, 032,000 lbs. of nitrogen, equivalent to 4,896,000 lbs. of ammonia!—the produce of a single city in one year.

Again, it is a supposition, certainly within the mark, that every person, one with another, gives rise to 1 lb. of urine every day, containing, according to the estimate of Berzelius, about 210 grains of urea. Taking the present population of London at two millions, this gives 60,000 lbs. of urea *daily*, or 21,900,000 lbs. yearly of this valuable substance THROWN AWAY—a quantity capable of producing by its decomposition 12,410,000 lbs. of ammonia. Could one fourth of this ammonia be converted into flour, it would produce the astonishing quantity of 159,687,500 lbs.

Special Manures.—Mr. Fleming of Barrochan (a Scottish farmer) gives the following as the results of his steward's experiments on special manures. He found that the nitrate of soda and potash, when applied by themselves, or in mixture, are beneficial to potatoes and hay; but when applied to grain crops, especially singly, they are positively injurious in a moist climate, as, though the growth of straw is greatly increased by them, the sample of grain becomes lighter and otherwise deteriorated. He considers it probable that the silicate of potash would counteract this effect. Common salt, at a distance from the sea, is advantageous to grain crops as respects color and plumpness, and also to grass and hay, although it does not cause a rush of growth like the nitrates. Soot differs little from nitrates in its effects on grass intended for hay, but the dealer in hay gives a less price for hay raised by soot. Sulphate and muriate of ammonia have the same effect as the nitrates. Sulphate of soda and magnesia act differently, and will not pay in most cases when applied by themselves to potatoes or grain, but they do well when mixed with nitrates. Guano may be successfully applied to every species of crop in the field or garden, and it always proves a most powerful auxiliary to farm-yard dung.

Analysis of Soils.—The following is a method of analysing soils, for ordinary agricultural purposes: Weigh a sufficient quantity of the earth to be analysed, say 1000 grains dried in the open air: dry the same before a fire on paper so as not to scorch the paper; re-weigh, and the difference will be the moisture. Roast the residue; re-weigh, and the difference will be the organic matter. Pour a convenient quantity of muriatic acid on the remainder, when stirred and settled pour it off, and add oxalate of ammonia; the precipitate will be the lime. Mix the remainder with water, and stir it well; when a little settled, pour off the turbid mixture, and the suspended contents are argillaceous, and the deposite siliceous.

Remarkable Fecundity of a Ewe.—A valuable ewe, the property of Mr. Edward Rowle of Cumberworth, near Alford, yeanned on the 7th inst., in less than half an hour, the extraordinary number of five lambs, averaging in weight $5\frac{1}{2}$ lbs. each. The whole of the lambs, with the ewe, are stout and healthy.

British Guano.—British Guano is now being gathered from the Flamborough cliffs, in Yorkshire.

New Work on the Vine.—We learn with much pleasure that a descriptive account of an improved method of planting and managing the roots of grape-vines is about to be published by Mr. Clement Hoare, whose valuable work on the general management of vines in the open air is so well known. We understand that the author's intention is to make known a new method of planting and managing vines, so as to give the gardener as perfect a command of the roots as he now has of the branches.

Culture of Wheat in China.—Wheat is cultivated nearly throughout the whole of China; hence the difference in the time of planting, and its coming to maturity. In the southern provinces it is sown in November, as soon as the rice crops or vegetables have been cleared away; and in the northern it is planted toward the end of October. In the former the harvest commences in April, and in the latter in May; in the Shantung and Chensi provinces it is not finished before the end of July; so that it requires above half a year to come to maturity. It is cultivated on almost every kind of soil, and on the slopes of the mountains, which are cut into terraces for the purpose. In the neighborhood of Amoy (lat. $24^{\circ} 25'$) it is planted in the marshy grounds from which the rice crop has been removed;

and the mean temperature of the months of January and February, 1843 (which were very wet) was about 56° of Fahrenheit. The coast about Amoy is extremely barren and unproductive, the soil being chiefly composed of disintegrated sand-stone, and the detritus of granite, naturally producing nothing but mosses, and a few stunted pines and laurels; by the industry of the Chinese, and the copious application of human manure, it is made highly productive; and cultivation is carried on to the very summit of hills 1,000 and 1,200 feet high, the slopes of which are formed into terraces, to prevent the soil from being washed away by the rains. Smut appears to be the only disease to which the wheat is subject. Everything in the shape of a weed is carefully removed, and the utmost attention paid to prevent any noxious influence from injuring the crop. The land is prepared in the ordinary manner when the autumnal rains have fully soaked it. Having been plowed in a very loose manner, the clods are divided by a harrow, the pins of which have a cutting edge, which is drawn by a small ox, after which it is formed into deep and broad furrows, with intervening ridges for the reception of the plants, which, having been raised in nursery-beds, are transplanted when about five inches high in bunches on the long ridges, so as to occupy only one half of the ground. In each bunch of the transplanted wheat which I picked here (at Chusan) there were 29 plants or stalks; and a square yard contains 15 such bunches planted at equal distances. I examined 15 heads (ears) one from each stalk of the bunch, in their perfectly ripened state, and found them to contain as follows: 33, 45, 34, 49, 34, 40, 42, 32, 48, 45, 31, 33, 38, 34, and 44 grains each, giving an average produce of 38.8 per ear. An ounce avoirdupois contains 1067 grains; this gives 48.771333 to the apothecary's scruple, or 146.3213 to drachm.

The process of tillage is rather tedious, and the expense of ground considerable; but in return for this, the wheat takes deep root, and is well nourished. The manure employed in some places is the cake left after expressing the oil from mustard-seed, human and other hair, lime from burned shells; but human feces and urine constitute the prevailing manure, and are so highly valued that they are carefully preserved by every family, and sold at a high price. To such an extent is the economy of this manure carried, that, to prevent any possible waste, privies are everywhere provided in the towns, and those who have occasion for them, not only invited to enter, but paid for so doing with a small piece of money. All these several substances, with a vegetable expressly cultivated for the purpose, straw and weeds are thrown into vats, of which several are placed for security at the door of every house, and left to ferment till required. Wheat is called by the Chinese "syiy nia," and barley "drow nia," or "the poor man's grain;" the former being called, when speaking to us, "mandarin chow," chow or food. The latitude here (at Chusan) is $30^{\circ} 0' 20''$, at Amoy $24^{\circ} 25' 0''$; but the cold is both longer and more severe here than at Amoy during the season of wheat. There is a wheat here without a beard, a specimen of which I have. It is cultivated in the same manner as the other. The average weight of each ear in an undried state is 15 grains. Great attention is paid to the manuring and irrigation if the season happen to be dry. During the winter the wheat remains very low, and no further attention is paid to it by the husbandman. In April and May the growth is extremely rapid; but the Chinese do not allow the crop to attain perfect maturity before they cut it, lest the grain should fall out. When cut it is left to dry, and the grain is then beaten out in a tub.

Editor's Table.

ANNUAL REPORT FOR 1843, of Hon. H. L. Ellsworth, Commissioner of Patents, being Doc. No. 177; Ho. of Reps., 28th Congress, 1st session. This report occupies 335 pages octavo, and is not only the fullest and most complete document yet issued from the Commissioner's bureau, but we will add also, the most useful and varied. If leisure permit, we intend making for our next number, an abstract of the most essential parts of it relating to agriculture; and in the mean while, to give the reader an idea of the valuable matter embodied in it, we subjoin the table of contents.

Commissioner's report—Statement of receipts and expenditures—Tabular estimate of the crops—Remarks on the tabular estimate—The season—Wheat-crop, varieties of, depth of sowing, product, &c., amount and selection of seed, time of sowing; experiments, diseases in, and prevention, &c., use of in manufactures—Barley-crop, varieties of, &c.—Oat-crop, varieties of—Rye-crop, varieties of, multicolored, &c., use in manufactures—Buckwheat crop—Maize or Indian corn crop, calico variety—Potato-crop, failure and diseases, &c., J. Stirrat's letter, use in manufactures, &c.; modes of planting, &c.—Hay-crop, gama, tussock, and arundo-grass, &c.—Flax and hemp, varieties, manufacture and use—Tobacco-crop, varieties—Cotton-crop, exportation and consumption of, &c., experiments in raising, &c.—Rice-crop, varieties—Silk-crop, varieties of mulberry-tree, kind of worms, causes of failure and mode of feeding, method of preparing, manufacture, profit, &c.—Sugar-crop, Rieulleux's improvements, maple, cornstalk, experiments in—Wine-crop, grapes, &c.—Comparison of products of other countries—Other agricultural products, artichoke, spurry, Bokhara-clover, Anjou-cabbage, madder, olives, indigo, tea, oil-plants, mustard, &c., cranberries, apples, eggs, &c.—Products of the dairy, milk and cream, &c., butter; Dutch, Goshen, modes of working and preserving, cheese, modes of making, &c.—Lard and lard-oil, experiments, &c.—Kiln-dried meal and flour, experiments, &c.—Feeding cattle, Experiments, &c.—Manures, urine, soot, charcoal, salt, nitrate of soda, guano, experiments, artificial, &c., blood, green manuring, experiments, Jauffret's mode and experiments—Home market—Foreign market—Provision trade with England—Conclusion—Letter of S. Scott on the acclimation of seeds—Comparative tariffs on agricultural products—Canada tariff—Bills of sales of American produce in England—Table of imports of produce—Preparation of provisions for British markets—The new tariff—Letter of W. Milford on freight—Mode of preparing hams—On plank roads in Canada—Letter of R. L. Robertson on Ericsson's propellers on Lake Erie—On the culture of pumpkins on grass-land—Unburnt brick houses—Boucherie's process of hardening wood—Morse's electro-magnetic telegraph—Mode of laying pipe—Report of examiners on the arts: metallurgy, of the manufacture of fibrous and textile substances, steam of gas engines, boilers, generators, &c., navigation and marine implements, civil engineering and architecture, of land conveyance, comprising carriages and other vehicles, of grinding-mills and horse-powers, &c., of lumber; machines for sawing, planing, mortising, &c., of fire-arms and implements of war, including the manufacture of gun-powder and shot, miscellaneous, agriculture, chemistry, fine arts, hydraulics, calorific, &c.

THE SOUTHERN AGRICULTURIST, HORTICULTURIST, AND REGISTER OF RURAL AFFAIRS, (Phœbus, what a long name;) adapted to the southern section of the United States: New Series, Volume IV., published by A. E. Miller, No. 4 Broad street, Charleston, S. C., 40 pages octavo, monthly—price \$3 year.—Judging from numbers 4 and 5 at hand, this is a well-sustained and excellent work, and calculated to greatly benefit the planting interest—we heartily wish it a large subscription list. It is singular that we did not know of the existence of our southern namesake till about a month since. Will it please forward us numbers 1, 2, and 3, for current volume?

As we have set our face against the outrageous and exorbitant post office taxes levelled upon the *many* for the *benefit* of the *few*—an odious aristocratic measure—and are determined not to pay one mill of them when we can help it, till fairly and justly cut down and reformed, we shall be obliged if the Agriculturist, the Planter, Farmer and Gardener, and all journals with covers to them, would send us their exchange as the Prairie Farmer does, namely, with the leaves unstitched and uncut, and the cover folded over them loose. When stitched, they are classed with pamphlets, and we are charged full postage; the stupid, odious law, not allowing them to come free like other exchanges. It is not the *amount* of postage that we care for, but the principle of the thing; and as we are not strong enough to resist the arbitrary and unjustly capricious pamphlet regulation, we desire our contemporaries to enable us to evade it. According to present appearances, we may look in vain for any measure of reform from the dishonorable, pugilistic, and never-ending gabbling Congress now in session; it has no idea of sacrificing its agreeable franking privilege, and with this privilege it is known there can be no substantial reduction of the rates of postage. We have been informed that seven eighths of the weight of the mails is made up of political documents, franked for selfish, partisan purposes; and dull, sleepy reports sent over the country, which are scarce ever read or cared for by those to whom they are addressed. Reform this gross abuse and letters and pamphlet publications may be carried for one third the rates they now cost the people.

EUROPEAN AGRICULTURE AND RURAL ECONOMY, from Personal Observation, by Henry Colman, Vol. I., Part I. The late hour at which we received the first number of this long-expected European Agricultural Tour of Mr. Colman, prevents our giving it that notice now that we should otherwise have done, and which its intrinsic merits deserve. It must be premised that Part I., just received, is merely preliminary to the more important subject, viz: Practical Agriculture. The contents of this at hand are:

- I. General Facts and Considerations.
- II. Particular Objects of Inquiry.
- III. Science of Agriculture.
- IV. English Agriculture.
- V. English Capital.
- VI. General Appearance of the Country.
- VII. Hedges and Enclosures.
- VIII. Iron and Sunken Fences.
- IX. The English Parks.
- X. Ornamental Shrubs and Flowers.
- XI. Climate of England.
- XII. Agricultural Population, including under this head, 1. Landlords, Rents, and Taxes. 2. The Farmers. 3. The Agricultural Laborers.
- XIII. Allotment System.

Article XII. occupies just half of Part I., and the greater share of it is devoted to division 3, "The Agricultural Laborers," which is treated with fulness and in the proper spirit. We do not hesitate to say, that the "Gang System" of labor which prevails on large farms in some districts of England and Scotland, is one of the most atrocious systems of suffering and slavery, that the cupidity and tyranny of man has ever put in practice; and we wonder that any one calling himself a Briton, does not blush with shame, when he opens his mouth, and presumes to speak of the horrors of southern America or West India servitude. The kind-hearted Howitt, in his Rural Life in England, treats with becoming feeling and indignation the "Bondage System" prevailing in Northumberland; but that is freedom, ease, and affluence, in comparison with the accursed "Gangs." We did not visit any of those large farms

when in England, where the atrocious system of "Gangs" prevailed, yet we heard enough of it. But of the wants and sufferings in the midst of abundance—the grinding, heartless oppressions of the peasantry—the general field-labor of women as well as men—and above all, of the occupation of cattle-stalls and stables, promiscuously together at night, by the Irish harvesters of both sexes, we were often painfully made cognizant; and the reason why we never more than barely hinted at these things, in our own Sketches of England, is, that we thought the subject inappropriate to our journal—that touching it by a foreigner would only give offence, cause irritation, and be productive of little good. We think, however forbearingly Mr. Colman has treated this matter, that his publication of it will cause many heart-burnings in Great Britain, and shut the door to him in certain quarters against future inquiries. We hope the magnanimity, good sense, and feeling of the land-holders there will prevail, and that Mr. C.'s observations will be taken as they are meant—in kindness, and to correct a great and most atrocious evil; still, we greatly doubt whether the pride of human nature will allow it. It must be borne in mind that there are many noble exceptions, in the treatment of the peasantry of Great Britain and Ireland, and that their condition on some some estates is quite enviable—even in comparison with many of our own independent farmers.

We intend giving extracts in our next from this Agricultural Tour. Its publication is quite an era in American literature, and we shall be greatly mistaken if it be not sought for with avidity, and read with interest by the public generally. It will treat of the Agriculture of the Continent of Europe, as well as that of Great Britain and Ireland, and be extended to ten parts of about 100 pages each. The work is written in a lively agreeable style, and handsomely printed. The subscription price is \$5, of which \$2 is payable on the delivery of Part I. Published by Arthur D. Phelps, Boston, Mass. Saxton & Miles, 205 Broadway, New York, agents in this city.

OUTLINES OF THE SYSTEM OF EDUCATION proposed to be adopted in Franklin College, at Elm Crag, five miles from Nashville, Tenn., is the title of an octavo pamphlet of 12 pages sent us. In this college, the sciences and languages are to be taught at the same time with the practice of Agriculture, Horticulture, Stock-breeding, and the Mechanic arts, so far as they regard the implements of husbandry. In such a system of education we need not say that we heartily coincide. Donations of books, implements, and money, are solicited by a highly respectable committee, and we know of no object more deserving public patronage. Let those who have ability give liberally.

TRANSACTIONS FOR 1843, of the New York State Agricultural Society, together with an abstract of the proceedings of the County Agricultural Societies, Vol. III.—Here is a goodly volume of nearly 700 pages octavo, the contents of which may be anticipated by its title. Many of the articles in this volume are very good indeed, and others we think equally indifferent. Among those of most value is a Treatise on Insects by the late Willis Gaylord, being a prize essay. There are several other articles of merit, but we have not space to mention them now. Some who write for the Transactions, are too much in the habit of vamping up communications which have appeared before in the agricultural journals, a practice which we think should not be allowed in future volumes; as the articles contributed, to be entitled to admission, ought not only to be practically useful, but as *fresh* and *original* as possible. Made up in this manner, it would add greatly to the interest of the publication.

THE COTTON PLANT, being a Memoir on the Origin, Cultivation and Uses of Cotton, from the earliest ages to the present time, with especial reference to the Sea-Island Cotton Plant, including the improvements in its cultivation, and the preparation of the wool, &c., in Georgia and South Carolina; read before the Agricultural Society of St. John's, Colleton, November 13th, 1843, and the State Agricultural Society of South Carolina, December 6th, 1843, and by both societies ordered to be published. By Whitemarsh B. Seabrook, President of the State Agricultural Society of South Carolina. Published by A. E. Miller, Charleston, S. C., price 25 cents. This is the best and most complete history of the cotton plant we have yet met with, Mr. Seabrook having treated the subject with uncommon ability. This memoir ought to have a large circulation, and we earnestly exhort all those engaged in the culture of cotton to an attentive perusal of its contents. We can not but congratulate the south on the awakened interest that this and other valuable documents recently published in that quarter, seem to be creating, in regard to its valuable agricultural products.

Good Butter-Cow.—We notice in the Massachusetts Plowman that a three-year old native cow belonging to Mr. George Jewett, suckled her calf five weeks, supplied one family with milk during the season, and made in one year, 273 lbs. 12 oz. butter. Her feed was hay and grass alone. If this be so, she is an extraordinary heifer, and we would like to see a more particular description of her.

Goose-Oil for Sore Teats.—The same paper above, recommends this as the best article to heal sore teats and chapped hands. Washing the teats and hands in warm milk fresh from the cow, we have often found a good remedy, and rubbing them with cream still better.

Remedy for the Curculio.—Make a strong lime and mix it with lye, and the last of May or the first of June, pour at least two pailfuls of this liquid around the roots of each plum tree, and scarcely curculios enough escape sufficiently to thin the fruit. We wish Mr. Kenrick had stated in what proportion he mixed the lime and lye.—*Condensed from Hovey's Magazine.*

Cure for a Foundered Horse.—Take a pint of hog's lard and heat it boiling hot, and after cleaning his hoof well and taking off his shoe, put his hoof in the lard, and with a spoon apply it to all parts of the hoof as near the hair as possible. The application should be to the foot of each foundered limb, and be made as soon as ascertained.—*Louisville Journal.*

Large Berkshire.—Mr. Hutchins of Logan county lately brought a hog to this city, which, though but three years old, and *not fat*, weighed *fourteen hundred pounds!* The hog belongs to the family of Berkshires, and a sight of him will satisfy those who have had an antipathy against that respectable family, that Berkshires can be grown to any *reasonable* size—if 1,400 lbs. will limit their wishes in this respect.—*Sangamon Jour.*

Great sale of Wool from one Estate.—The celebrated farm of R. H. Rose, at Silver Lake, Penn., maintains ten thousand sheep. A few days since, the proprietor sold at one time to a manufacturer at Ithaca, 3,000 bales of wool, each bale weighing from 150 to 180 lbs., at 31 cents per pound.—*Northern Pennsylvanian.*

To Exchange Papers.—We have frequently adverted to the great injustice done us by some of our contemporaries, in copying articles from us without credit, and when such papers have been sent back to the editors with this marked omission, in nine cases out of ten they have taken no notice of it. We say now, for the last time, if corrections are not hereafter promptly made, we are determined immediately in every instance to stop the exchange.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MAY 23, 1844.

ASHES, Pots,	per 100 lbs.	\$4 31	to	\$4 27
Pearls,	do.	4 75	"	4 81
BACON SIDES, Smoked,	per lb.	3 1/2	"	4 1/2
In pickle	do.	3	"	4
BALE ROPE	do.	6	"	9
BARK, Quercitron	per ton	23 00	"	24 00
BARLEY	per bush.	60	"	62
BEANS, White	do.	1 25	"	1 75
BEEF, Mess	per bbl.	5 00	"	7 00
Prime	do.	3 00	"	5 00
Smoked	per lb.	5	"	7
Rounds, in pickle	do.	3	"	5
BEEFWAX, Am. Yellow	do.	28	"	31
BOLT ROPE	do.	12	"	13
BRISTLES, American	do.	25	"	65
BUTTER, Table	do.	12	"	15
Shipping	do.	8	"	12
CANDLES, Mould, Tallow	do.	9	"	12
Sperm	do.	29	"	38
Stearic	do.	20	"	25
CHEESE	do.	3	"	7
CIDER BRANDY, Eastern	per gal.	35	"	40
Western	do.	35	"	40
CLOVER SEED	per lb.	7	"	8
COAL, Anthracite	2000 lbs.	4 25	"	5 00
Sidney and Pictou	per chal.	5 75	"	6 25
CORDAGE, American	per lb.	11	"	12
CORN, Northern	per bush.	50	"	52
Southern	do.	46	"	48
COTTON	per lb.	5 1/2	"	10
COTTON BAGGING, Amer. hemp per yard.	do.	16	"	18
American Flax	do.	15	"	16
FEATHERS	per lb.	28	"	33
FLAX, American	do.	8	"	8 1/2
FLAX SEED, rough	per 7 bush.	9 00	"	9 75
clean	do.	10 00	"	10 50
FLOUR, Northern and Western	per bbl.	4 62	"	5 00
Fancy	do.	5 25	"	5 50
Southern	per bbl.	4 62	"	5 00
Richmond City Mills	do.	6 25	"	6 50
Rye	do.	3 12	"	3 50
HAMS, Smoked	per lb.	5	"	10
Pickled	do.	4	"	7
HAY	per 100 lbs.	33	"	38
HIDES, Dry Southern	per lb.	9	"	11
HEMP, Russia, clean	per ton.	180 00	"	185 00
American, water-rotted	do.	140 00	"	180 00
do dew-rotted	do.	90 00	"	140 00
HOPS	per lb.	7	"	9
HORNS	per 100	1 25	"	5 00
LARD	per lb.	5 1/2	"	6 1/2
LEAD	do.	3 1/2	"	4
Sheet and bar	do.	4	"	4 1/2
MEAL, Corn	per bbl.	2 50	"	2 75
do	per hhd.	12 00	"	12 50
MOLASSES, New Orleans	per gal.	27	"	30
MUSTARD, American	per lb.	16	"	31
OATS, Northern	per bush.	31	"	33
Southern	do.	28	"	31
OIL, Linseed, American	per gal.	73	"	75
Castor	do.	90	"	95
Lard	do.	60	"	62
OIL CAKE	per 100 lbs.	1 00	"	—
PEAS, Field	per bush.	1 25	"	—
PITCH	per bbl.	1 12 1/2	"	1 37
PLASTER OF PARIS	per ton.	2 37	"	2 50
Ground, in bbls. of 350 lbs.	per cwt.	1 12	"	—
PORK, Mess	per bbl.	7 00	"	10 00
Prime	do.	6 00	"	8 00
RICE	per 100 lbs.	2 75	"	3 25
ROBIN	per bbl.	60	"	80
RYE	per bush.	69	"	71
SALT	per sack	1 00	"	1 50
SHOULDERS, Smoked	per lb.	4	"	6
Pickled	do.	3	"	4
SPIRITS TURPENTINE, Southern	per gal.	31	"	35
SUGAR, New Orleans	per lb.	5	"	8
SUMAC, American	per ton	25 00	"	27 50
TALLOW	per lb.	6	"	7 1/2
TAR	per bbl.	1 50	"	1 62 1/2
TIMOTHY SEED	per 7 bush.	11 00	"	14 00
TOBACCO	per lb.	2 1/2	"	6 1/2
TURPENTINE	per bbl.	2 31	"	2 75
WHEAT, Western	per bush.	1 02	"	1 05
Southern	do.	95	"	1 00
WHISKEY, American	per gal.	22	"	24
WOOL, Saxony	per lb.	35	"	50
Merino	do.	35	"	40
Half-blood	do.	25	"	30
Common	3do.	20	"	25

New York Cattle Market—May 20.

At market, 1,000 Beef Cattle, (160 southern,) 130 Cows and Calves, and 600 Sheep.

Prices.—Beef Cattle.—Prices are well sustained with a good demand, and we quote for retailing sorts \$3.50, a \$7—all but 50 sold.

Cows and Calves.—The market was cleared at \$18 a \$30.

Sheep and Lambs—All sold at \$1.75 a \$4 for sheep, and \$1 50 a \$3.50 for lambs.

Hay—A good supply of loose at 50 a 62 1/2 cts. the cwt.

REMARKS.—Ashes, notwithstanding the late unfavorable news from Europe, continue firm for export. Cotton has fallen 1/4 of a cent since the arrival of the Britannia, and is without activity or firmness. Export from the United States since 1st September last, 1,186,846 bales; same time last year, 1,737,074; same time year before, 1,190,514. Flour and Grain remain steady, the late European news not having affected their prices. Hay continues abundant and dull. Hemp seems to be getting more into demand. Molasses firm, with an upward tendency. Naval Stores the same. Beef and Pork, we regret to say, are excessively dull, and the transactions limited. Rice and Sugar, in moderate request. Tobacco, quite active for export at firm prices.

Money has again become very abundant, and plenty to be had on good paper at 5 per cent.; on real estate, 6 to 7 per cent.

Stocks have steadily advanced the past month, and choice ones continue to be sought for investment.

Business generally, very heavy through the whole spring months, and things look promising for the summer.

The weather during May has been rather cold and rainy; in consequence of which, many of the seeds in low moist lands have rotted in the ground, and made a second planting necessary. Grass, Wheat, Barley, and Oats are very forward, and looking well, and promise a great yield. In the middle states, Corn, Hemp, and Tobacco, are equally in the advance. From the south, our accounts of the weather are not so favorable. Early in the season they had deluging rains, which have raised the Mississippi and several of its most important tributaries to so great a height as to overflow their banks, and cause immense destruction on the bottoms, to the crops of cotton and corn; the flood, also, has swept off large herds of cattle and swine, and been the means of much other destruction. This, latterly, in other parts, has been followed by an alarming drought which has proved nearly as destructive on the high lands to the cotton, &c., so that the seed in many fields has not come up, and in others the plant has been cut off by the worm, and made a second planting in many instances necessary. We can only hope that this may not be too late for a good crop.

TO CORRESPONDENTS.—Communications the past month have been received from D. Lee, Examiner, J. H. Lyman, John W. Knevels, Thomas Spaulding, A. Traveller, Henry A. Field, Thomas Affleck, and C. N. Bement.

H. W. will find a complete description of the Pheasant-Fowl he inquires about, under the name of the Bolton-Grey or Creole-Fowl, in Mr. Bement's forthcoming work on Foultry. We have heard them highly commended for laying, but do not believe them superior to the Polands.

J. D. asks if we know of any pure white fowls with black top-knots? We do not, and shall be obliged if any one can inform us. The nearest approach to this kind of fowl within our knowledge, is owned by Mr. C. N. Bement of Albany. They have white bodies with dark speckled necks and top-knots. We presume these, as well as the kind inquired after by J. D., are a cross between the White and Black Polands, and then bred as a distinct variety. As J. D. is curious in such matters, we recommend his experimenting in them.

PREMIUM EAGLE, SUBSOIL, AND OTHER PLOWS.

The subscriber having been appointed agent in this city for the sale of the celebrated Premium Plows, made by Ruggles, Nourse, & Mason, of Worcester, Massachusetts, now offers them at the manufacturers' home prices. They are calculated alike for the northern farmer and southern planter, and embrace every variety, Cotton and Rice plow, Stubble, Sod, Road, and Subsoil. Prices from \$3.50 to \$15.00, according to the kind.

The great number of premiums which these plows have obtained at the most important plowing-matches, and the universal satisfaction they have given wherever introduced, render it unnecessary to particularise their merits. They are made of the best materials, are highly finished, and combine light weight and easy draught, with great strength and durability.

A. B. ALLEN, 205 Broadway, N. Y.

THORP'S THREE-SHARE PLOW.

One of Thorp's Three-Share Plows, for which a premium was awarded at the late Fair of the American Institute, for sale, price \$10. Inquire of the Editor of the American Agriculturist, or at the office of the American Institute in the Park 21

AGRICULTURAL WORKS,

For sale by **SAXTON & MILES**, 205 Broadway, New York.

Clater and Youatt's Cattle Doctor, containing the causes, symptoms, and treatment of all the diseases incident to Oxen, Sheep, and Swine. Price 50 cents.

Dumas & Boussingault's Chemical and Physiological Balance of Nature. Price 50 cents.

The American Race Turf Register, Sportsman's Herald, and General Stud Book. By P. N. Edgar. Price \$2.

Liebig's Agricultural and Animal Chemistry. Price 50 cts.

Liebig's Familiar Letters on Chemistry. Price 12½ cts.

Loudon's Encyclopædia of Agriculture, English. Price \$10.

Loudon's Encyclopædia of Gardening. Price \$10.

Bridgeman's Young Gardener's Assistant, new edition, much enlarged. Price \$2.

The Farmer's Mine; being the most complete work on Manures ever published. Price 75 cts.

The Vegetable Kingdom, or Hand-Book of Plants. Price \$1.

Youatt on the Horse; a new edition. Price \$2.

The Complete Farmer, and Rural Economist, by Thomas G. Fessenden. Price 75 cts.

The New American Orchardist, by Wm. Kenrick. Price 87½ cts.

The Honey Bee, its Natural History, &c., with 35 engravings. Price 31 cts.

Bres, Pigeons, Rabbits, and the Canary Bird, familiarly described. Price 50 cts.

The American Poultry Book; being a practical treatise on the management of Domestic Poultry. Price 35 cts.

A Treatise on Sheep, with the best means for their general management, improvement, &c.; by A. Blacklock. Price 50 cts.

The Theory of Horticulture; or an attempt to explain the principal operations of Gardening upon physiological principles; by John Lindley. Price \$1.25.

Gardening for Ladies, and Companion to the Flower Garden, by Mrs. Loudon. Price \$1.50.

American Husbandry. Price \$1.

The Farmer's Instructor; consisting of Essays, practical directions, and hints for the management of the Farm and the Garden. By J. Buel, 2 vols. Price \$1.

A Muck Manual for Farmers; by Samuel L. Dana. Price 50 cts.

Chemistry Applied to Agriculture; by M. Le Comte Chaptal. Price 50 cts.

The American Gardener; by William Cobbett. Price 75 cts.

A Treatise on the Vine; embracing its History, and a complete dissertation on the culture and management of Vine Yards; by Wm. R. Prince. Price \$1.50.

The Farmer's Encyclopædia, and Dictionary of Rural Affairs; by Cuthbert W. Johnson. Adapted to the United States by Gouverneur Emerson. Price \$4.

Cattle; their Breeds, Management, and Diseases. Price \$2.

IN PRESS.

The American Poulterer's Companion, by Caleb N. Bement, with numerous illustrations.

MADDER SEED.

The very high prices which the Madder Dyes of France and Holland have attained, are sufficient to excite the attention of our intelligent agriculturists. It is only necessary to take into consideration the immense quantity of Madder consumed in the various manufactories of the United States, to be convinced that the cultivation of this plant would be attended with great advantages, and that it may be undertaken with certainty of profit.

The Madder root can be cultivated in almost every climate. The sands of Silesia, the marshes of Zealand, the arid soils of the south of France and Persia produce it, and of almost equally good quality. It is well known that atmospheric influences make but little impression upon a root, the valuable part of which grows beneath the surface of the soil; and what a powerful guarantee does this circumstance afford to the cultivator of the Madder. It protects him from all varieties of temperature, which so frequently destroys crops of a different nature. For those who cultivate this root, a crop is assured as soon as the seed which they have put into the ground begins to germinate.

A special report upon the cultivation of this plant was laid before the Academy of Sciences at Paris, and a prize awarded to the author. It was written by M. de Gasparin, Peer of France, Member of the Institute, and formerly Minister of the Interior. French Madder Seed, obtained from last year's crops, may be had of the subscribers, who have received a consignment of a considerable quantity. Price \$1 per lb., or at reduced rates when a quantity is taken. J. M. THORBURN & CO., 15 John st., N. Y.

JUST PUBLISHED,**COLMAN'S AGRICULTURAL TOUR.**

The first part of Rev. Henry Colman's Report on European Agriculture and Rural Economy, is received. The work will be completed in ten numbers, at \$5.00, \$2.00 to be paid on the delivery of the first number. **SAXTON & MILES**, 205 Broadway.

THE AMERICAN AGRICULTURIST.

Published Monthly, each number containing 32 pages, royal octavo.

TERMS—One Dollar per year in advance; single numbers, Ten Cents; three copies for Two Dollars; eight copies for Five Dollars.

Each number of the Agriculturist contains but One sheet, subject to newspaper postage only, which is one cent in the State, or within 100 miles of its publication, and one and a half cents, if over 100 miles, without the State.

ADVERTISEMENTS will be inserted at One Dollar, if not exceeding twelve lines, and in the same proportion, if exceeding that number.

Remit through Postmasters, as the law allows.

AGRICULTURAL IMPLEMENTS, &c.

The subscribers are agents in this city to sell the following celebrated Machines, viz:

Hussey's Premium Corn and Cob-Crusher, price from \$25 to \$40.

Dickey's " Fanning-Mill, " \$20 to \$30.

Platt's " Portable Grist-Mill, &c., \$30 to \$100.

Also for sale, Hovey's Premium Straw-Cutter, (spiral knives,) prices from \$15 to \$25

Warren's Premium Straw-Cutter, \$15 to \$25

Hull's Cornstalk and Straw-Cutter, \$20

Being proprietors of the now celebrated "Warren's Improved Portable Horse-Powers and Thrashing-Machines," they continue to manufacture and sell them with increased success. Some twenty gentlemen having been present at an exhibition of the operation of these machines, state that "having witnessed the practical utility of 'Warren's Improved Horse-Power and Thrashing-Machines,' they cheerfully recommend them to the attention of agriculturists as the most perfect inventions of the character that have ever fallen under their observation."

With the Two-Horse Machines, 30 bushels of oats or barley is easily thrashed per hour, and wheat and other small grain in proportion, clean and excellent, leaving the straw unbroken so that it may be gathered into bundles; and not more than three persons are required to tend them. One, two, and four-horse Machines are manufactured. Prices very low. Two-Horse Power and Thrasher together only \$75.—One-Horse \$60.—Four-Horse from \$100 to \$110. Terms, cash in this city on delivery. Liberal deductions made to dealers on all kinds of such machines as we sell.

L. BOSTWICK & CO.

146 Front street, New York.

FARMS AND REAL ESTATE FOR SALE.

Several very fine farms in different parts of the United States can be had upon the most reasonable terms. Also, beautiful country seats in this vicinity, at very cheap rates, and real estate in the city. A. B. ALLEN, 205 Broadway.

CONTENTS OF JUNE NUMBER.

Culture of Corn, - - - - -	Page 161
Sketches of the West, No. 4, - - - - -	162
Culture of the Potato, - - - - -	163
Farm of Mr. Woolsey, - - - - -	164
Dorking Fowls, - - - - -	165
Culture of the Sugar-Cane, No. 1, Thomas Spaulding, - - - - -	167
Saxon Merino Sheep, Samuel F. Christian, - - - - -	168
Odd Rows of Corn, J. S. S., - - - - -	170
Culture of Tobacco, No. 1, D. P. Gardner, - - - - -	171
To Destroy Worms on Rose-Leaves, M. Van Beuren, - - - - -	172
The Physician an Agriculturist, Dr. Stevens, - - - - -	173
Agricultural Errors, Wm. Partridge, - - - - -	174
The English Oak in America, B., - - - - -	175
Tornillo or Screw-Glass, J. H. Lyman, - - - - -	176
Clearing Forest Lands, E. Carpenter, - - - - -	177
The Georgia Table-Pea, D. B., - - - - -	178
Berkshire Pigs, L. F. Allen, - - - - -	179
Grafting, D. Jay Browne, - - - - -	180
A Moveable-Fence, R. L. Allen, - - - - -	181
A Piggery, T. C. Peters, - - - - -	182
To Kill Lice on Cattle, - - - - -	183
A Pennsylvania Dairy, Henry Chorley, - - - - -	184
The Best Sheep Country, Jeremiah F. Hunt, - - - - -	185
Value of Agricultural Papers, Alexander McDonald, - - - - -	186
Additional Premiums, - - - - -	187
A New Variety of Spring Wheat, Jos. C. G. Kennedy, - - - - -	188
New Jersey Fences, A. R. D., - - - - -	189
The Cow-Pea, Peach, Cuba-Tobacco, &c., T. Affleck, - - - - -	190
Long-Wool Sheep, Leonard D. Cliff, - - - - -	191
Fattening Steers, Jno. M. C. Valk, - - - - -	192
Elder-Berry Wine, Mrs. S., - - - - -	193
Statistics of Fruit, S. C. Higginson, - - - - -	194
Northern Calendar for June, - - - - -	195
Southern do. - - - - -	196
Foreign Agricultural News, Chinese Agriculture, &c., &c., - - - - -	197
Editor's Table, Annual Report of Hon. H. L. Ellsworth, European Agricultural Tour of Henry Colman, Esq., &c., &c., - - - - -	198
Review of the Market, - - - - -	199
Answer to Correspondents, - - - - -	200